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THE ZOOLOGIST:

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OF

NATURAL HISTORY,

FOR

RECORDING FACTS AND ANECDOTES

RELATING TO

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"Wryneck, *Yunx torquilla*, 394" indicates that this bird is described at page 394 of the 'Dictionary.'

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The Birds of Shakespeare. By J. E. HARTING, F.Z.S.

(Continued from Zool. S. S. 479.)

TURTLE DOVE (*Columba turtur*).

Midsummer Night's Dream, Act i. Scene 1.; Act i. Scene 2.; Act ii. Scene 1.
Merry Wives of Windsor, Act i. Scene 3.
Coriolanus, Act v. Scene 3.
Love's Labour Lost. Song.

> " The *dove* of Paphos."
> *Pericles*, Act iv. Intro.

The towns of Old and New Paphos are situate on the S.W. extremity of the coast of Cyprus. Old Paphos is the one generally referred to by the poets, being the peculiar seat of the worship of Venus, who was fabled to have been wafted thither after her birth amid the waves. (See Smith's Dict. Greek and Rom. Geograph. Mela. 2. 7; Tacit. Hist. 2. 3; and Lemprière.) The "dove of Paphos," therefore, may be considered as synonymous with the "dove of Venus." Sometimes by Paphos is understood the city of Cyprus, which is said to have been founded by Paphos, son of Pygmalion, and was known by his name:

> " Illa Paphon genuit: de quo tenet insula nomen."
> *Ovid, Metam.*, Book 10, Fable 8.

The dove has always been considered the emblem of innocence, and as frequently represents modesty, patience, fidelity, and other virtues.

> " Therefore do nimble pinioned *doves* draw love."
> *Romeo and Juliet*, Act ii. Scene 3.

> " Modest as the *dove*."
> *Taming of the Shrew*, Act iii. Scene 2.

> " As patient as the female *dove*."
> *Hamlet*, Act v. Scene 1.

> * * * as innocent
> As is the sucking lamb or harmless *dove*."
> *Henry VI.*, Part II., Act iii. Scene 1.

> " The *dove* and very blessed spirit of peace."
> *Hen*[illegible] I., Act iv. Scene 1.

BRITISH MUSEUM

> "As true as steel, as plantage to the moon
> As sun to-day, as *turtle* to her mate."
>
> *Troilus and Cressida*, Act iii. Scene 2.

So in Spenser's 'Faerie Queene'

> "And of fair Britomart ensample take
> That was *as trew in love as turtle to her make.*"
>
> Book III., Canto xi., 2.

"Make," from the Anglo-Saxon "maca," signifies a companion or mate, and occurs frequently in Spenser's works.

> "And followed her *make* like turtle chaste."
>
> *Astrophel*, 170.

An enquiry into the meaning of the word "plantage," above mentioned, leads to some curious information. "Plantage" is probably for anything that is planted (Nare's 'Glossary,' &c., 4to, London, 1822). Plants were supposed to improve as the moon increased, and from an old book entitled 'The Profitable Art of Gardening,' by Thos. Hill, the third edition of which was printed in 1579, we learn that neither sowing, planting, nor grafting, was ever undertaken without a scrupulous attention to the increase or waning of the moon. Dryden does not appear to have understood the above passage, and has accordingly altered it to "as true as *flowing tides* are to the moon;" but the meaning of the original words seems sufficiently clear, and may be fully illustrated by the following quotation from R. Scott's 'Discoverie of Witchcraft':—"The poore husbandman perceiveth that the increase of the moone maketh plants frutiful, so as in the full moone they are in the best strength; decaieing in the wane, and in the conjunction do utterlie wither and vade."

It is possible that particular reference may be had to the plant "honesty" or "lunary' (Lunaria), which was so named from the circular shape of its pod, which was thought to resemble the moon (Luna), not only in its form but in its silvery brightness. The title of "honesty" appears to have been given to it from the transparent nature of the pod which discovers those seed-vessels that contain seed from such as are barren or have shed their seed. We learn from Chaucer that "honesty" (Lunaria) was one of the plants used in incantations; but he mentions it as "*Lunarie.*" Drayton calls it "*Lunary.*"

> "Then sprinkles she the juice of rue.
> With nine drops of the midnight dew
> From *Lunary* distilling."
>
> *Nymphid.*

But to return to our doves:

> "Who will not change a raven for a *dove?*"
> *Midsummer Night's Dream*, Act ii. Scene 3.

> "Was Mahomed inspired with a *dove*?"
> *Henry VI.*, Part I., Act iv. Scene 1.

It is related that Mahomed had a dove which he used "to feed with wheat out of his ear, which dove, when it was hungry, lighted on Mahomed's shoulder and thrust its bill in to find its breakfast, Mahomed persuading the rude and simple Arabians that it was the Holy Ghost that gave him advice." (Sir Walter Raleigh's 'History of the World,' Book I., Part 1. c. 6).

> "Seems he a *dove?* his feathers are but borrowed."
> *Henry VI.*, Part 2., Act iii. Scene 1.

> "As soft as *dove's* down and as white as it."
> *Winter's Tale*, Act iv. Scene 3.

> "So shows a snowy dove trooping with *crows*,
> As yon fair lady o'er her fellows shows."
> *Romeo and Juliet*, Act v. Scene i.

> "So *turtles* pair
> That never mean to part."
> *Winter's Tale*, Act iv. Scene 3.

> "Like an eagle in a *dovecote*, I
> Flutter'd your Volscians at Corioli."
> *Coriolanus*, Act v. Scene 3.

> "I'll sacrifice the lamb that I do love
> To spite a raven's heart within a *dove*."
> *Twelfth Night*, Act v. Scene 1.

The custom before alluded to (Zool. S. S. 536) of bestowing a pair of doves as an offering is very ancient, and Izaac Walton tells us that "for the sacrifice of the Law a pair of turtle doves or young pigeons were as well accepted as costly bulls and rams." When Gobbo wished to curry favour with Bassanio, he began by saying:

> "I have here a dish of *doves* that I would bestow on your worship."
> *Merchant of Venice*, Act ii. Scene 2.

Doves and pigeons, probably, were often synonymous terms: we have referred to Justice Shallow's *penchant* for pigeons, and Paris speaking to Helen of Pandarus, says:—

"He eats nothing but *doves* love."
Troilus and Cressida, Act iii. Scene 1.

A weakness which he deprecates as being heating to the blood.

"To be furious
Is to be frighted out of fear; and in that mood
The *dove* will peck the ostrich."
Antony and Cleopatra, Act iii. Scene 2.

"So cowards fight when they can fly no farther
So *doves* do peck the falcon's piercing talons."
Henry VI., Part 3, Act i. Scene 4.

"And *doves* will peck in safeguard of their brood."
Id., Act ii. Scene 2.

"But bees with smoke and *doves* with noisome stench
Are from their hives and houses driven away."
Henry VI., Part 1, Act i. Scene 5.

"I an old *turtle*
Will wing me to some wither'd bough, and there
My mate that's never to be found again
Lament till I am lost."
Id., Act v. Scene 3.

"Fare you well my *dove*."
Hamlet.

PHEASANT (*Phasianus Colchicus*).

"None, sir, I have no *pheasant*, cock nor hen."
Winter's Tale, Act iv. Scene 3.

PARTRIDGE (*Perdix cinerea*).

"Who finds the *partridge* in the puttock's nest,
But may imagine how the bird was dead,
Although the kite soar with unbloodied beak."
Henry VI., Part 2, Act iii. Scene 2.

Such was the beautiful metaphor uttered by the Earl of Warwick upon the occasion of the Duke of Gloucester's death. The unfortunate Duke Humphrey was discovered dead in his bed, with marks of a violent death upon his features, and grave suspicion fell upon the Duke of Suffolk, who "had him in protection." This circumstance, coupled with the fact that Suffolk was a sworn enemy of the Duke, placed a heavy weight in the balance against him.

There are some persons of such temper that when aught occurs to put them out of humour they will sit apart in sulkiness, brooding over conceived wrongs, perhaps refusing their food, but never spiting any so much as themselves. Such a one was Benedick, of whom Beatrice says:—

> "He'll but break a comparison or two on me, which peradventure not marked or not laughed at, strikes him into melancholy. And then there's a *partridge* wing sav'd, for the fool will eat no supper that night."
>
> *Much Ado About Nothing*, Act ii. Scene 1.

From all such, say we, heaven defend us!

QUAIL (*Perdix coturnix*).

> "Here's Agamemnon, an honest fellow enough,
> And one that loves *quails*."
>
> *Troilus and Cressida*, Act v. Scene 3.

Anciently it was the practice to keep quails and to make them fight like game-cocks. Solon directed that quails should be made to fight in the presence of the Athenian youths in order to inflame their courage, and the Romans held quail-fighting in still higher estimation. Augustus punished a prefect of Egypt with death for buying and bringing to table a quail which had acquired celebrity by its victories. (Vide Julius Pollux "De ludis," lib. ix). Even at present this sort of amusement is common in some parts of Italy, and still more so in China. In Italy they feed up two quails very highly, and then place them opposite to each other at the end of a long table, throwing between them a few grains of millet-seed to make them quarrel. At first they merely threaten, lowering the head and ruffling all the neck-feathers, but at length they rush on furiously, striking with their bills, erecting their heads, and rising upon their spurs, until one is forced to yield.

In 'Antony and Cleopatra,' Antonius says of Cæsar:

> "His cocks do win the battle still of mine
> When it is all to nought, and his *quails* ever
> Beat mine inhoop'd at odds."

"With Antonius there was a soothsayer or astronomer in Egypt that coulde cast a figure and judge of men's nativities, to tell them what should happen to them. He told Antonius plainly that his fortune (which of itself was excellent good and very great) was altogether blemished and obscured by Cæsar's fortune; and therefore he counselled him utterly to leave his company, and to get him as farre from him as he coulde. Howsoever it was, the event ensuing proved the Egyptian's words true: for it is said that as often as they drew lots for pastime, who should have anything; or whether they played at dice, Antonius always lost. *Oftentimes when they were disposed to see cock fight or quails that were taught to fight one with another, Cæsar's cocks or quails did ever overcome.* The which spited Antonius in his mind, although he made no outward show of it, and therefore he believed the Egyptian the better. In fine he recommended the affaires of his house unto Cæsar and went out of Italy with Octavia his wife, whom he carried to Greece, after he had had a daughter by her." (See North's Plutarch).

LAPWING (*Vanellus cristatus*).

The lapwing, like the partridge and some other birds, has a curious habit of trying to draw intruders away from the nest or young, by fluttering along the ground in an opposite direction, or by feigning lameness, or uttering melancholy cries at a distance.

> "Far from her nest the *lapwing* cries away."
> *Comedy of Errors*, Act iv. Scene 2.

Allusions to this habit of the lapwing are not unfrequent in our old poets. We read in Lily's 'Campaspe,' 1584:

> "You resemble the *lapwing* who crieth most where her nest is not."

So also Greene, in his second part of 'Coney Catching,' 1592:

> "But again to our priggers, who, as before
> I said *cry with the lapwing farthest from her nest.*"

And in Ben Jonson's 'Underwoods:'

> "Where he that knows will *like a lapwing flie,*
> *Farre from the nest* and so himselfe belie."

Hence the phrase "to seem the lapwing," which occurs in 'Measure for Measure.' Act i. Scene 5. So in 'Much Ado About Nothing:'

> "For look where Beatrice, like a *lapwing* runs,
> Close by the ground to hear our conference."
> Act iii. Scene 1.

It is well ascertained that the young of the lapwing, partridge, and some few other birds, run almost as soon as hatched, and Shakespeare was evidently aware of this peculiarity when he wrote :

> "This *lapwing* runs away with the shell on his head."
>
> *Hamlet*, Act v. Scene 2.

HERON (*Ardea cinerea*).

Considering the frequent allusions to falconry which we find throughout the Plays of Shakespeare, and the fact that the heron was one of the birds most frequently flown at, for hawking at herons was thought to be "a marvellous and delectable pastime," it is somewhat surprising that this bird is not more often mentioned.

Hamlet says :

> "I am but mad north north-west: when the wind is southerly, I know a hawk from a *handsaw*."
>
> *Hamlet*, Act ii. Scene 2.

An old proverbial saying, originally "he does not know a hawk from a *hernshaw*," *i. e.* a *heron*, but the word was thus corrupted before Shakespeare's day.

"An ingenious friend," says the 'Athenæum' (December 30, 1865), "suggests the following explanation of this passage which has greatly puzzled commentators. Among the ancient Egyptians the hawk signified the Etesian, or northerly wind (which, in the beginning of summer, drives the vapour towards the south, and which, covering Ethiopia with dense clouds, there resolves them into rains, causing the Nile to swell), because that bird follows the direction of that wind (Job xxxix. 26). The heron, hern, or hernshaw, signified the southerly wind, because it takes its flight from Ethiopia into Higher Egypt, following the course of the Nile as it retires within its banks, and living on the small worms hatched in the mud of the river. Hence the heads of these two birds may be seen surmounting the *canopi* used by the ancient Egyptians to indicate the rising and falling of the Nile respectively. Now, Hamlet, though feigning madness, yet claims sufficient sanity to distinguish a hawk from a hernshaw when the wind is southerly, that is, in the time of the migration of the latter to the north, and when the former is not to be seen. Shakespeare may have become acquainted with the habits of these migrating birds of Egypt through a translation of Plutarch, who gives a particular account of them, published in the middle of the sixteenth century by Thomas North."

John Shaw (M.A. of Cambridge), who published a curious book in 1635, entitled 'Speculum Mundi,' tells us that "the heron or *hernsaw* is a large fowle that liveth about waters," and that hath a marvellous hatred to the hawk, which hatred is duly returned. "When they fight above in the air, they labour both especially for this one thing, that one may ascend and be above the other. Now, if the hawk getteth the upper place he overthroweth and vanquisheth the heron with a marvellous earnest flight."

The heron, besides affording much sport when hawked at, was considered, when killed, a great delicacy for the table.

"On 18th May, 1812, the executors of Thomas Sutton, founder of the London Charter House, gave a splendid feast in the Hall of the Stationers' Company. For this repast were provided 32 neats' tongues, 40 stone of beef, 24 marrow bones, 1 lamb, 46 capons, 32 geese, 4 pheasants, 12 pheasants' pullets, 12 godwits, 24 rabbits, 6 *hearnshaws*, &c., &c."—*Malcolm.*

WOODCOCK (*Scolopax rusticola*).

Love's Labour Lost, Act iv. Scene 2.
Taming of the Shrew, Act i. Scene 2.

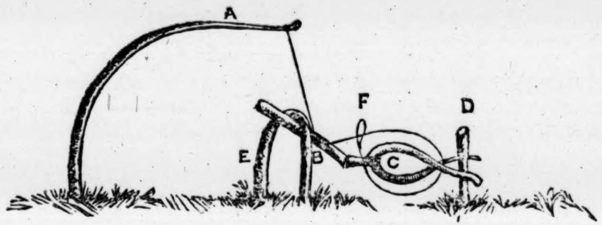
"Shall I not find a *woodcock* too?"
Much Ado About Nothing, Act v. Scene 1.

"Four *woodcocks* in a dish."
Love's Labour Lost, Act iv. Scene 3.

In Shakespeare's time, as at present, the woodcock was considered a great delicacy, and we find many allusions to its capture by springe and gin.

"Aye, springes to catch *woodcocks*."
Hamlet, Act i. Scene 3.

Mr. St. John, in his 'Natural History and Sport in Moray,' describes a springe, with which he used to take snipe and woodcock very successfully. It was made as follows:—



A. Rod like a mole-trap stick.
B. Short piece of stick.
C. Forked stick with one end passed through the other.
D. Straight stick.
E. Bent stick.
F. Hair-snare.

A, by pulling on B, presses it against the forked stick C, which in turn is pressed against the upright stick D, and this keeps it all in place. But on a bird stepping on the forked stick C, the weight of the bird loosens its hold, and the long stick A flies up, catching the victim in the snare, which is laid flat on the forked stick C.

> "If the springe hold, the *cock's* mine."
> *Winter's Tale*, Act iv. Scene 3.

Mr. Knox, in his 'Game Birds and Wildfowl,' has described a very similar trap, and his description is so animated, while at the same time so instructive, that we are tempted to overlook the similarity and quote his words:

"We soon found many tracks of the woodcock on the black mud; and on one spot these, as well as the borings of his beak, were very numerous. Here my companion halted, and pulling out his knife, cut down a tall willow rod, which he stuck firmly into the ground in nearly an upright position, or perhaps rather inclining backwards. On the opposite side of the run he fixed a peg, so as to project only a few inches above the surface; to this he fastened a slight stick about a foot long, attached loosely with a tough string, much as the swingel of a flail is to its handstaff: another branch of willow was bent into an arch, and both ends driven into the soft ground to a considerable depth on the opposite side of the track, and nearer to the tall upright wand. To the tip of the latter a string was now fastened, the end of which was formed into a large running noose; while, about half way down, another piece of stick, about six inches long, was tied by its middle. The flexible wand was then bent forcibly downwards, one end of the little stick overhead was passed under the arch, while it was retained in this position, and at the same time the bow prevented from springing upwards, by the other extremity being placed against a notch at the end of the stick which had been fastened to the peg on the other side of the run, across which it now lay, two or three inches from the ground, and supported the noose. This, in fact, constituted the trigger, which was to be released when struck by the breast of the woodcock. The old man constructed his trap in much less time than I have taken to describe it. His last care was to weave the sedges on either side of the run into a kind of screen, so as to *weir* the woodcock into the snare, and this he accomplished with much skill and expedition."

"As a *woodcock*, to my own springe
I am justly kill'd with my own treachery."
Hamlet, Act v. Scene 2.

Another method of taking this bird was with a steel trap called "a gin."

"Now is the *woodcock* near the gin."
Twelfth Night, Act ii. Scene 4.

This trap being commonly used now-a-days for rats, is probably too well known to need a description here.

* * "so strives the *woodcock* with the gin."
Henry VI., Part III., Act i. Scene 4.

In taking leave of this species, we may conclude with the portentous words of the clown in 'Twelfth Night,' who, after a lengthy dialogue with Malvolio on the subject of the transmigration of souls, and the opinion of Pythagoras concerning wildfowl,* concludes by saying:

"Fear to kill a *woodcock*, lest thou dispossess the soul of thy grandam. Fare thee well."
Twelfth Night, Act iv. Scene 3.

SNIPE (*Scolopax gallinago*).

The only allusion to this bird which we have been able to find occurs in 'Othello,' where Iago, alluding to Roderigo, says:

"For I mine own gain'd knowledge should profane
If I would time expend with such a *snipe*
But for my sport and profit."
Othello, Act i. Scene 3.

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* See later, under head of "Wild Duck.'

The speaker being evidently of opinion that a snipe was too insignificant a bird to the sportsman to warrant his taking much trouble to secure it, except for mere sport.

GOOSE (*Anser ferus*).

As You Like It, Act iii. Scene 4.
Love's Labour Lost, Act ii. Scene 1; Act iv. Scene 2.
Midsummer Night's Dream, Act v. Scene 1.
Tempest, Act ii. Scene 2.
Merry Wives of Windsor, Act v. Scene 1.
Romeo and Juliet, Act ii. Scene 4.
Coriolanus, Act i. Scene 1.

"Winter's not gone if the wild *geese* fly that way."
King Lear, Act ii, Scene 4.

"The spring is near when green *geese* are a-breeding."
Love's Labour Lost, Act i. Scene 1.

"When every *goose* is cackling."
Merchant of Venice, Act v. Scene 1.

May is the time for a *green goose*, *i. e.* a goose fed on grass in contradistinction to a *stubble* or Michaelmas goose:

"So *stubble* geese at Michaelmas are seen
Upon the spit; next May produces green."
King's 'Art of Cookery.'

"I have stood on the pillory for *geese* he hath
Kill'd, otherwise he had suffered for 't."
Two Gentlemen of Verona, Act iv. Scene 4.

"His discretion I am sure cannot carry his valour, for the *goose* carries not the fox."—*Midsummer Night's Dream*, Act v. Scene 1.

"Why then my taxing like a *wild goose* flies,
Unclaim'd of any man."
As You Like It, Act ii. Scene 7.

"As *wild geese* that the creeping fowler eye."
Midsummer Night's Dream, Act iii. Scene 2.

"You souls of *geese* that bear the shapes of men."
Coriolanus, Act i. Scene 4.

"He that trusts to you,
Where he should find you lions, finds you hares,
Where foxes, *geese*."
Coriolanus, Act v. Scene 1.

* * * "I'll never
Be such a *gosling* as to obey instinct."
Id., Act i. Scene 3.

(*Falstaff.*) "If I do not beat thee out of thy kingdom with a dagger of lath, and drive all thy subjects before thee like a flock of *wild geese*, I'll never wear hair on my face more."—*Henry IV.*, Part I., Act ii. Scene 4.

"*Goose*, if I had you upon Sarum plain,
I'd drive you cackling home to Camelot."
King Lear, Act ii. Scene 2.

There appears to be some difference of opinion as to what place is meant by the ancient name Camelot. Selden, in his notes to Drayton's 'Polyolbion,' says: "By South Cadbury is that Camelot; a hill of a mile compass at the top; four trenches encircling it, and betwixt every of them an earthen wall; the contents of it within about twenty acres, full of ruins and relics of old buildings."

In the 'History of King Arthur' (Chap. 26), Camelot is located in the West of England, Somersetshire, while in Chapter 44, it is related that Sir Balen's sword "swam down the stream to *the citie of Camelot that is in English Winchester*."

When Caxton finished the printing of the 'Mort d'Arthur,' in 1485, he says of the hero: "He is more spoken of beyond the sea * * * and yet of record remain witness of him *in Wales, in the town of Camelot* the great stones and marvelous works," &c.

Tennyson, in his 'Morte d'Arthur,' twice mentions Camelot, and in his 'Lady of Shalott' frequently alludes to "many tower'd Camelot," but in neither poem is any clue to its precise situation given.

"Nay, if our wits run the *wild goose* chase, I am done."
Romeo and Juliet, Act ii. Scene 4.

The *wild goose chase* was a barbarous sort of horse race, in which two horses were started together, and the rider who first got the lead compelled the other to follow him over whatever ground he chose. (See Chambers' Dictionary, last edition, article "Chase;" also Holt White's note to this passage in the 'Variorum Shakespeare.')

"And all be turn'd to *barnacles.*"
Tempest, Act iv. Scene 1.

It was anciently believed that the barnacle or bernacle shell-fish (*Lepas anatifera*) which is found on timber exposed to the action of the sea, became, when broken off, a kind of goose. Some indeed supposed that the barnacles actually grew on trees, and thence dropping into the sea became geese, and an interesting cut of these birds so growing, from a MS. of the 14th century, is given by Mr. Haliwell, who observes that "the barnacle mentioned by Caliban in 'The Tempest,' was no doubt the tree-goose, and the true absurdity of our old writers, as Douce has observed, consisted in their believing that this bird was really produced from the shell of the fish." The manner in which it was supposed to be generated may be seen from the following extract from Gerards 'Herbal, or History of Plants,' a rare treatise, the author of which lived during the reign of Elizabeth. He says, "There is a small island in Lancashire called the Pile of Foulders (on the west side of the entrance into Morecambe Bay, about fifteen miles south of Ulverston), wherein are found the broken pieces of old and bruised ships, and also the trunks and bodies, with the branches of old and rotten trees, cast up there likewise; whereon is found a certain spume, or froth, that in time breedeth unto certain shells, in shape like those of the muskle, but sharper pointed, and of a whitish colour, wherein is contained a thing in form like a lace of silke, finely woven as it were together; one end whereof is fastened to the inside of the shell, even as the fish of oisters and muskles are; the other end is made fast unto the belly of a rude masse or lump, which in time cometh to the shape and form of a bird: when it is perfectly formed, the shell gapeth open, and the first thing that appeareth is the aforesaid lace or string; next come the legs of the bird hanging out, and as it groweth greater, it openeth the shell by degrees, till at length it is all come forth, and hangeth only by the bill: in short space after it cometh to full maturitie, aud falleth into the sea, where it gathereth feathers, and groweth to a fowl bigger than a mallard, and lesser than a goose, which the people in Lancashire call by no other name than a tree goose; which place aforesaid, and all those parts adjoining, do so much abound therewith, that one of the best is bought for threepence." So fully convinced was the sage Gerard of the "truth hereof," that he closes his account with an invitation to all who doubted the fact to apply to him. "If any doubt, may it please them to apply unto me, and I shall satisfie them by the testimonie of good witnesses."

SWAN (*Cygnus ferus*).

Merry Wives of Windsor, Act v. Scene 5.

"I have seen a *swan*
With bootless labour swim against the tide,
And spend her strength with overmatching waves."
Henry VI., Part III., Act i. Scene 4.

"And wheresoe'r we went, like Juno's *swans*,
Still we went coupled and inseparable."
As You Like It, Act i. Scene 3.

"For all the water in the ocean
Can never turn a *swan*'s black legs to white,
Altho' she laves them hourly in the flood."
Titus Andronicus, Act iv. Scene 2.

"Compare her face with some that I shall show,
And I will make thee think thy *swan* a crow."
Romeo and Juliet, Act i. Scene 2.

* * * Her hand
To whose soft seizure *cygnet's* down is harsh."
Troilus and Cressida, Act i. Scene 1.

Mr. Yarrell, in his 'History of British Birds,' remarks that "The young, when hatched, which is generally about the end of May, are conducted to the water by the parent bird, and are even said to be carried there: it is certain that the cygnets are frequently carried on the back of the female when she is sailing about in the water. This I have witnessed on the Thames, and have seen the female, by raising her leg, assist the cygnets in getting upon her back." Mr. Jesse, also, in his 'Gleanings in Natural History,' correctly observes "Where the stream is strong, the old swan will sink herself sufficiently low to bring her back on a level with the water, when the cygnets will get upon it, and in this manner are conveyed to the other side of the river, or into stiller water."

That this habit had been noticed by Shakespeare we may presume from a passage in 'King Henry VI.,' where we read:

"So doth the *swan* her downy cygnets save,
Keeping them prisoner underneath her wings."
Henry VI., Act v. Scene 3.

"Underneath her wings," that is sheltered by the wings, which are arched over the back whereon the young are seated.

This habit of carrying the young has been remarked also in the horned grebe (*Podiceps cornutus*). Mr. Proctor, of Durham, speaking of the habits of this bird in Iceland, says: "One day, having observed one of these birds dive from its nest, I placed myself with my gun at my shoulder waiting its re-appearance. As soon as it emerged I fired and killed it, and was surprised to see two young ones, which it seems had been concealed beneath the wings of the parent bird, drop upon the water. I afterwards shot several other birds of this species, *all of which dived with their young under their wings.* The young were placed with their heads towards the tail, and their bills resting on the back of the parent bird."

> "In the world's volume
> Our Britain seems as of it, but not in it,
> In a great pool a *swan's* nest."
> *Cymbeline*, Act iii. Scene 4.

> "I will play the *swan* and die in music."
> *Othello*, Act v. Scene 2.

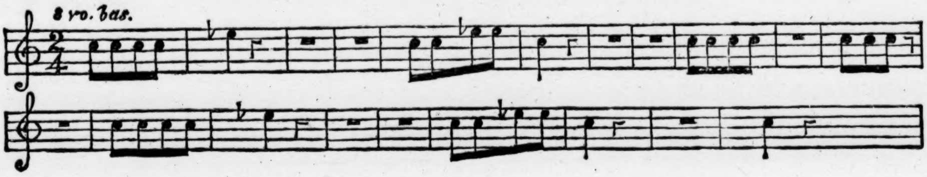
> "A *swan*-like end, fading in music."
> *Merchant of Venice*, Act iii. Scene 2.

"The swan being identified with Orpheus, and called also the bird of Apollo, the god of music, powers of song have been often attributed to it and as often denied. It is, however, perfectly true that this bird has a soft low voice, rather plaintive, and with little variety, but not disagreeable. I have heard it often in the spring, and sometimes later in the season, when moving slowly about with its young." (Yarrell's 'British Birds,' Vol. iii. pp. 213-14).

Col. Hawker, in his 'Instructions to Young Sportsmen' (11th Edition, p. 269), says: "The only note which I ever heard the wild swan, in winter, utter, is his well-known 'hoop.' But one summer evening I was amused with watching and listening to a domesticated one, as he swam up and down the water in the Regent's Park. He turned up a sort of melody, made with two notes, C and the minor third E flat, and kept working his head as if delighted with his own performance."

The melody, taken down on the spot by a first-rate professor, Auguste Bertini, was as follows:

Allegro, or by Maelzel's Metronome = 126.



The Abbé Arnaud has penned some very minute observations upon the voice of the swan. He says:—"The swan, with his wings expanded, his neck stretched, and his head erect, comes to place himself opposite to his female, and utters a cry to which the female replies by another, which is lower by half a tone. The voice of the male passes from A (*la*) to B flat (*si bemol*): that of the female from G sharp (*sol dièse*) to A. The first note is short and transient, and has the effect which our musicians call *sensible;* so that it is not detached from the second, but seems to slip into it. Observe that, fortunately for the ear, they do not both sing at once; in fact if while the male sounded B flat, the female struck A, or if the male uttered A while the female gave G sharp, there would result the harshest and most insupportable of discords. We may add that this dialogue is subjected to a constant and regular rhythm, with the measure of two times. The inspector assured me that during their amours these birds have a cry still sharper, but much more agreeable." (Wood's Buffon, xix. 511, note).

WILD DUCK, WILD FOWL (*Anas boschas*).

Midsummer Night's Dream, Act iii. Scene 1.
Tempest, Act ii. Scene 2.
Troilus and Cressida, Act iii. Scene 2.

* * * "You know
Strange *fowl* light upon neighbouring ponds."
Cymbeline, Act i. Scene 5.

* * * "Like a flight of *fowl*
Scatter'd by wind and high tempestuous gusts."
Titus Andronicus, Act v. Scene 3.

"Such as fear the report of a caliver worse than a struck *fowl* or hurt *wild duck*."—*Henry VI.*, Part I., Act iv. Scene 2.

"Alas! poor hurt *fowl*, now will he creep into hedges."
Much Ado About Nothing, Act ii. Scene 1

It is noticeable that when any of the diving-ducks are winged or wounded they generally make for the open water, where they endeavour to escape by diving or swimming away, whereas if a duck which does not excel in diving be wounded it will, as a rule, make for the shore, and, as Shakespeare tells us, "creep into hedges."

> *Falstaff.* "There's no more valour in that Poins than in a *wild duck.*"
> *Henry IV.*, Part I., Act ii. Scene 2.

As a rule, the wild duck is not easily approached, and takes wing on the least alarm, never facing a danger and fighting as some birds will do in defence of their young or when wounded. A remarkable instance, however, of fearlessness and affection in a wild duck recently came under our observation. A sportsman, returning home late one evening, surprised a pair of ducks in an old gravel-pit, now half full of water. As they rose he killed the duck with the only charge he had left, dropping her in the middle of the water. Before he could get her out, he observed that the drake, which had flown to a considerable distance, finding himself alone, returned to the spot, and notwithstanding that his enemy was still moving on the bank, after making one or two circles in the air, alighted on the water close to the dead body of his mate. Swimming round and round her, from time to time he uttered a mournful note, and appeared very unwilling to leave the spot. Instead of pitying the distress of the poor mallard, and regretting the loss he had occasioned him, the sportsman, we are sorry to add, hastened home, the distance of nearly a mile, and, procuring some more powder and shot, returned and killed the faithful bird, which still remained upon the water near its mate. We saw the pair shortly afterwards; they were the pintail duck, in remarkably good plumage. ('The Birds of Middlesex,' p. 226).

All ducks are very cleanly in their habits, and take a great pleasure in dressing their feathers after feeding, and it would be difficult to find a more conceited-looking bird than a wild duck.

Falstaff, however, speaking of Poins, says:

> "There is no more conceit in him than is in a *mallet.*"
> *Henry IV.*, Part I., Act ii. Scene 4.

Thereby implying that the "mallet," that is, the mallard or wild drake, has no conceit in him.

> * * * "Antony
> Claps on his sea wing, and like a doting *mallard*,
> Leaving the fight in height, flies after it."
> *Antony and Cleopatra.*

"That as a *duck* for life that dives,
So up and down the poor ship rides."
Pericles, Introd.

The following dialogue between Malvolio and the clown in 'Twelfth Night,' concerning wildfowl, has perhaps quite as much reference to birds in general:—

Clo. "What is the opinion of Pythagoras* concerning *wild fowl*?
Mal. That the soul of our grandam might haply inhabit a bird.
Clo. What think'st thou of his opinion?
Mal. I think nobly of the soul, and no way approve his opinion.
Clo. Fare thee well. Remain thou still in darkness: thou shalt hold the opinion of Pythagoras ere I will allow of thy wits; and fear to kill a woodcock, lest thou dispossess the soul of thy grandam. Fare thee well."
Act iv. Scene 3.

CORMORANT (*Carbo cristatus*).

"Insatiate *cormorant*."
Richard II., Act ii. Scene 1.

With this exception we find the word "cormorant" invariably used by Shakespeare as an adjective; as, for example:—

"The *cormorant* belly."
Coriolanus, Act i. Scene 1.

"The *cormorant* war."
Troilus and Cressida, Act ii. Scene 2.

And

"*Cormorant* devouring time."
Love's Labour Lost, Act i. Scene 1.

GULL (*Larus*).

Othello, Act v. Scene 2.
Twelfth Night, Act iii. Scene 2; Act v. Scene 1.

"Here comes my noble *gull* catcher."
Twelfth Night, Act ii. Scene 4.

For the derivation and meaning of the word "gull" we may refer back to Zool. S. S. 530.

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* See Zool. S. S. 658.

> "For I do fear
> When every feather sticks in his own wing,
> Lord Timon will be left a naked *gull*."
>
> *Timon of Athens*, Act ii. Scene 1.

> "And sometimes I'll get thee young *sea-mells* from the rock."
>
> *Tempest*, Act ii. Scene 2.

Sea-mell no doubt is synonymous with sea-mall or sea-mew. In Macgillivray's 'Manual of British Birds,' we find "sea-mew, maw, or moll," given as names for the common gull.

We have now reviewed to the best of our ability the information afforded us by the Plays of Shakespeare on the subject of our British birds. The inquiry, at first sight, may have appeared trivial, but now that we have concluded our task, and have seen what an extensive knowledge in one branch only of Natural History was possessed by our great poet, our admiration for him as a poet must be increased tenfold on perceiving that the beauteous thoughts which he has clothed in such beauteous language were dictated by a pure love of Nature, and by a study of those great truths which appeal at once to the heart and to reason, and which infuse into the soul of the naturalist the true spirit of poetry.

J. E. HARTING.

Kingsbury, Middlesex.

Notes on the Quadrupeds of Lanarkshire.

By EDWARD R. ALSTON, Esq.

(Concluded from S. S. 242.)

IN concluding these notes, I propose now to give a list of the species met with in this part of Scotland, with references to my previous notes on them. The nomenclature and arrangement adopted are those of Prof. Bell's standard work on 'British Quadrupeds.'

Common Bat (Vespertilio pipistrellus, *Geoff.*).—Is our commonest species, though hardly so abundant with us as in some places.

Longeared Bat (Plecotus auritus, *Geoff.*).—This pretty bat is also not uncommon, and is the only other species which I have met with. Daubenton's bat (*V. Daubentoni*) has been taken more than once in Scotland, and other species would probably be found if the subject were properly investigated.

Hedgehog (Erinaceus europæus, *Linn.*).—Is abundant in Lanarkshire, as throughout Scotland generally, excepting the extreme north (Zool. S. S. 59).

Mole (Talpa europæa, *Linn.*).—Is common in spite of constant persecution (Zool. 9707).

Common Shrew (Sorex tetragonurus).—Very common (Zool. 9358).

Oared Shrew (S. remifer, *Geoff.*).—Appears not to be very rare, although seldom met with.

Badger (Meles taxus).—Is probably still found in some places, although I have no evidence of its occurrence of late years.

Otter (Lutra vulgaris, *Erxleb.*).—The otter is common on the Clyde, rarer in the smaller streams and tributaries (Zool. S. S. 10).

Common Weasel (Mustela vulgaris, *Linn.*).—Is abundant in spite of constant trapping. It particularly affects small plantations and old stone walls, but is also found on the open moors (Zool. 9647 and S. S. 159).

Stoat or Ermine (M. erminea, *Linn.*).—The stoat is even more plentiful than the last-named species, and this seems to be the case in most parts of Scotland; it frequents similar localities (Zool. 9647 and S. S. 159).

Polecat (M. putorius, *Linn.*).—Was formerly not uncommon, but now seems to be almost extinct. I am not acquainted with any authentic captures of either the common or the pine marten (*Martes foina*, Gmel., and *M. abietum*, Ray) in Lanarkshire of late years. The wild cat (*Felis catus*, Linn.) also appears to be extinct, although it still holds its ground in Dumbartonshire and Stirlingshire (near Loch Lomond), as well as further north.

Fox (Vulpes vulgaris, *Briss.*).—The fox is common, especially where preserved, and inhabits both the woodlands and the open moors.

Squirrel (Sciurus vulgaris, *Linn.*).—The squirrel is plentiful throughout Lanarkshire, but is said not to be found in Ayrshire (Zool. 9359, 9481, 9647, and S. S. 240).

Field Mouse (Mus sylvaticus, *Linn.*).—This pretty species is not uncommon, though not nearly so plentiful as the field vole (Zool. 9708).

House Mouse (M. musculus, *Linn.*).—"Ye littel vulgare mouse" is of course abundant. It is not uncommon in coal-mines, where it probably lives on the crumbs and remains of the colliers' dinners; in such places albino mice are sometimes met with (Zool. 9708).

Brown Rat (M. decumanus, *Pall.*).—Is only too plentiful, in the neighbourhood of houses or farm-yards (Zool. 9708 and S. S. 60).

Water Vole (Arvicola amphibius, *Desmar.*).—The so-called "water rat" is commonly found in every pond and ditch, but does not seem to inhabit the swift gravelly streams or "burns." I have not met with the black variety, but believe that it is found in some parts of the country.

Field Vole (A. agrestis, *Flem.*).—This is the commonest of the "field-mice," and seems to frequent fields, meadows, woods and gardens alike; in winter it climbs low trees and barks the young shoots. Locally it is called the "water mouse" (Zool. 9430).

Bank Vole (A. pratensis, *Baill.*).—The bank vole is not uncommon, especially in gardens, which appear to be the favourite habitat of this species (Zool. S. S. 9, 159, 240).

Common Hare (Lepus timidus, *Linn.*).—This species is very abundant, on the moors as well as in cultivated ground (Zool. 9430).

Alpine Hare (L. variabilis, *Pall.*).—The alpine hare is not indigenous, I believe, in any part of the South of Scotland. But of late years it has been introduced both in Peebleshire (see Mr. Chambers' History of that county) and near Muirkirk, on the borders of Ayrshire and Lanarkshire. In both instances it appears to be spreading, and it has been occasionally found of late on the hills of the south of Lanarkshire.

Rabbit (L. cuniculus, *Linn.*).—Very abundant and apparently increasing (Zool. S. S. 241).

Roe-deer (Cervus capreolus, *Linn.*).—Plentiful in all wooded districts where it is preserved. The wonderful history of the reproduction of the roe-deer, as elucidated by Prof. Bischoff, of Giessen, and other German naturalists, does not appear to be well known to English readers: I hope to revert to this subject at some future time (Zool. 9359).

Wild White Cattle (Bos taurus, *Linn.*, Var. *scoticus*).—The existence of the herd of these relics of ancient days at Cadzow, enables me to claim the "mountain bull" as a Lanarkshire quadruped. As I already mentioned the fatal "rinderpest" wrought sad havoc among the Cadzow cattle, but I am glad to say that the majority of them survived (Zool. 9518 and S. S. 242.).

Thus ends the brief list of our Lanarkshire native quadrupeds, for the want of a coast-line deprives us of the seals and cetaceans, although the porpoise is said to have ascended the Clyde as far as Glasgow in old days.

EDWARD R. ALSTON.

205, Bath Street, Glasgow,
March 6, 1867.

Ornithology of the Firth of Cromarty.
By W. VINCENT LEGGE, Esq., F.Z.S.

DURING the snows of last month I spent three weeks at the very remote and defunct little town of Cromarty, and occupied myself during that time in shooting specimens of sea-fowl. I might mention that the Firth, perhaps the most magnificent harbour in the kingdom, is admirably suited as a resort for all manner of wild fowl. Entering from the Moray Firth through a sort of natural gateway, formed by two tremendous precipices, called locally "Suters," from an old Scotch legend, and which are exactly a mile apart, the Firth widens out into a splendid harbour as far as Invergorden, seven miles from the entrance, and then stretches in the form of a narrow loch, twelve miles farther inland, as far as Dingwall. The deep water and rocky entrance afford a likely haunt for divers and oceanic ducks; a mile or two up on the right hand side is a large shallow bay (Nigg Bay), uncovered at low water, resorted to by the largest flocks of Brent geese I have ever seen. Six miles farther up on the opposite side is Udel Bay, mentioned, I think, in one of Colquhoun's works, and where the fat old mallard and his companion the widgeon revel on extensive weedy flats; farther up still there is splendid wild-fowl shooting all the way to the head of the Firth. Talk, however, to a boatman in the Firth about the wild fowl and, what does *he* say?—"*You* may think, sir, there's plenty o' ducks and geese here, but Lor' bless ye, sir, there 'aint one quarter what there used to be twenty year' ago. Them punt-guns has frightened 'em all away, sir!" And what shall we say about the punt-guns: say! why—But we won't say what we ought; only, he who shall at some future day succeed in putting them down, if ever such a thing does happen, will, I know, receive the hearty thanks of every ornithologist and true sportsman.

But as to the birds: those of the gull family I met with or shot were—glaucous gull, Iceland gull, great blackbacked gull, lesser blackbacked gull, herring gull, common gull, blackheaded gull, kittiwake.

The common and herring gulls were by far the most plentiful though perhaps I am wrong in saying that the common was far more plentiful than the herring gull.

Glaucous Gull.—On the 12th, during a snow storm and high wind from the north-east, I shot one of these fine birds in beautiful immature plumage. He was soaring along over the beach in the teeth of the gale, eyeing the high-water mark at the edge of the snow, and showed not the least fear of me or my gun. His dimensions were:

Length from top of bill to tip of tail - -	2 feet 2½ inches.
Expanse of wings - - - -	5 „ 1 inch.
Wing from carpal joint - - - -	1 foot 6½ inches.

I saw an adult bird one day, but he did not come within shot of the boat.

Iceland Gull.—For a fortnight the snow lay thick and frozen down to the edge of the tide, and the weather was so severe that everything I shot, with the exception of ducks and geese, was miserably thin. Gulls are driven to great extremities in hard weather; they seem but poorly able to look after the "commissariat." There happens to be in the town a fish-curing house, situated on the beach: this was the favourite resort of hundreds of starving gulls, who floated lazily on the water near the shore, or sat in flocks on the shingle, regardless of passers by, while others, with appetites sharpened by hunger and by an odour more pleasant to their olfactory nerves than to mine, hovered over the sheds and eagerly snapped up the offal thrown from the windows. Among a flock of young herring gulls, who were watching for fishy heads and tails, I observed a pair of young Iceland gulls, one of which I was fortunate enough to shoot. In plumage he was the very *fac-simile* of his big cousin the "Burgomaster," and was of exactly the same dimensions as a herring gull which I shot immediately afterwards. How Temminck regarded this species as a variety of the herring gull I cannot imagine, for it does not appear to me to resemble this latter in any one stage of plumage. The young bird mentioned and described by Yarrell, appears to have been a small specimen: he gives its length as eighteen inches, whereas mine measured twenty-one inches. The legs were flesh-colour, not *yellow-brown;* also Yarrell gives the bird of the young "Burgomaster" as *pale brown* and the tail as *uniform yellowish brown.* The bill of my gull is flesh-colour and the tail-feathers grayish white, barred with pale brown. Both specimens are now in the Museum of the Royal Artillery Institution at Woolwich.

Great Blackbacked Gull.—Plentiful in the Firth and outside, but no amount of cold seems to make this king of gulls tame. The old birds were always seen singly, and the young ones in small numbers together. The former I generally found on the mud flats in Nigg Bay, on the opposite side of the Firth. These fine old fellows have a habit of flying over a boat, sometimes high in the air, and uttering their far-off sounding "kow-kow," as if they objected to your presence in their haunts. One morning I was out at day-break in a duck punt (minus the punt-gun), and a ponderous individual with a back as black as night loomed up from the distance, flew round once or twice over my head, uttering loud cries, and then turned away; but thinking he had not inspected me enough he came back, and after giving vent to his opinions in the same manner he vanished in the gray dawn. Can any of your readers assign a reason for this habit? I have often observed it. Perhaps my friend was bidding me "good morning!"

Lesser Blackbacked Gull.—Not so plentiful as the great blackbacked gull: those I observed were young birds, judging from what I shot of course.

Herring Gull.—Very plentiful. The old birds and young ones keep very much apart. The former I used to find on the sands of the opposite side of the Firth, whereas the young ones, with occasionally an old bird or two, frequented the "curing" house in large numbers. They were very thin after a fortnight's frost. These birds became very tame and fearless: one day I saw a pair of old birds alight on a wall within a few yards of the door of a cottage, and at other times I have seen them hovering over the back yards of the houses. They do not seem to suffer so much from the hard weather as the blackheaded gull; they are not particular what they eat: they frequented the sheep-folds and turnip-fields where the snow had been beaten down by the sheep, and on coming south, after the thaw had set in, between Inverness and Nairn, I saw what appeared to me from the carriage-window to be a dung-heap so thickly covered with herring and common gulls that one could with difficulty have found room to stand on it.

Common Gull.—Very common in the Firth, with a very large proportion of young birds, many of which I shot in every variety of plumage. They were always to be seen in great numbers, seeking their food on the edge of the ebbing and flowing tide, and picking up what they could find floating about in part of the fishing village.

Blackheaded Gull.—This little gull I found more numerous than any other species, and more pinched by the hard weather; some I shot were mere lumps of feathers. The lover of sea-fowl cannot but admire the way in which these little fellows crowd in flocks, and hover over any piece of water containing any floating matter that they seek, or how they flock with beating wings round the fishing-boats as they come in from the sea, and gracefully stoop with hanging feet to pick up what Fortune finds for them on the water.

Kittiwake.—Scarce, so far as I could see. Do not these birds come farther south in the winter? We have very few on this coast, of course on account of the flats, which are only frequented by wading gulls.

Bean Goose.—I saw a small flock of five geese one day, which I fancy were of this species, but they did not fly near enough for me to observe any distinguishing characteristic, with the exception of their large size and gray colour.

Brent Goose.—These birds are in the proportion of a hundred to one of any other wild fowl in the Firth. Their numbers are extraordinary: no matter in what part of the Firth your boat might be, you were sure to come upon brent geese (they are called "barnacle geese" there)—the real bernicle I neither saw nor heard of); while hundreds were on the "muds," feeding, flocks rushed about here and there over the feeding-grounds with their wild note "like a pack of hounds in full cry," and at the same time other flocks were scattered here and there over the Firth resting on the deep water. They were always "on the move," like restless spirits, and tended greatly to enliven the gloomy frosty days, of which we had not a few, with their lively habits and noisy tongues. Their chief feeding-ground is Nigg Bay, on the Ross-shire side of the Firth; very few ever frequent Udel Bay, the resort of the mallard. This goose dives for some distance when winged and pursued in a boat. I could not help admiring the handsome graceful head and neck and wild eye of a wounded bird, which I was one day chasing. He reminded me something of the wild-looking black swan of Australia: two or three of his companions were loath to forsake him, and flew round him once within shot; had I had a breech-loader I should have added them to my bag. There was always a great movement at sunset: immense numbers used to fly out to sea regularly every evening, and this used to puzzle me, as they were always in the Firth again a few hours after; this seemed quite independent of the tide. Mallard and widgeon are plentiful, but far wilder than the geese: they resort principally to Udel Bay, not appearing to find food on the "flats" frequented by the geese.

Longtailed Duck.—I met with a small flock of this beautiful duck at Ballintore, a village on the east coast, some eight miles from Cromarty, and a few days afterwards found three or four pairs in a sheltered little bay under the steep cliffs of the North "Suter." They were driving almost in the surf, so close were they to the rocks. With the rocks and steep hill covered with snow down to the very edge of the surf, and the enormous icicles, scores of feet in length, which hung from the dark cliff, they might well have imagined themselves in their accustomed arctic haunts. I shot a beautiful male in the water, the rest of the flock taking flight; a female, however, dropped winged to the gun of a friend in the boat. They dive very expertly, as we wasted several barrels before we procured our wounded bird. These birds, I hear, frequent the Firth every winter during hard weather, the inhabitants being quite familiar with them and calling them "Kamleck's." The male was smaller than the bird described by Yarrell, and the part of the beak intermediate between the base and the nail was a delicate pink. Yarrell gives it *pale reddish brown:* in other respects my specimen corresponded entirely with the description given by him.

Pochard.—I came on a male pochard one evening sitting on the rocks, he scuttled down some distance into the water upon my making my appearance round a corner, and I then shot him. Pochards are not so plentiful as other oceanic ducks in the Firth, but I several times met with them near the rocks off the "Suters."

Goldeneye and Scaup Duck.—Both in small numbers about the rocks at the entrance and on the water in the Firth, the goldeneye the most plentiful of the two. They were very shy, seldom allowing the boat to get within shot; but they often flew near us, when on the wing. Nearly all the goldeneyes I met with were females, and these associated together in small flocks up to a dozen in number. They are extremely lively and expert in the water, the whole flock sometimes diving instantaneously together. I found a male scaup one day sitting on a large piece of ice in the midst of a large "pack." He had evidently alighted on the ice, for he was in rather a predicament, unable to reach the water, and unable, I believe, to rise from the ice, probably on account of the position of the legs and the short wings. I do not think he was wounded, as I knocked him over, and he then got into the water between two pieces of ice, and diving came up outside the "pack," requiring then a considerable amount of hitting before I secured him.

Oystercatcher.—Large flights of these birds, flying in strings like wild fowl, used to enter the Firth at sunset, and betake themselves to the flats in Nigg Bay. I found them also, always in single examples, on the rocks of the Suters at low water. They were miserably thin; one I shot had the breast-bone almost cutting through the skin. They feed on the small winkles from the rocks.

Curlew.—Curlews were driven to dire necessity by the snow and frost, one or two having been taken in fields by the hand, hardly able to fly; one of these that died and came afterwards into my possession was so thin that it could be held up by taking the breast-bone between the finger and thumb. I am sorry I did not take the dimensions of this bird; he was the finest curlew I ever saw, his bill measuring one inch and a half longer (from measurement) than that of any specimen I had shot, and when in good condition must have been a magnificent bird. Contrary to their wary habits they often flew right down upon the boat, and in this manner I shot several: those, however, that were found feeding on the flats were as watchful and wild as ever, getting up at the least sound of the paddles, in the twilight of the morning, piercing the air with their shrill, clear note—a sound musical to him who loves Nature, and thoroughly belonging to, and ever in harmony with, the wildest and loveliest scenes of our shores.

Little Auk.—One bird shot on the 23rd, in the Firth, by a friend. The little auk is rare, I should say, in the neighbourhood.

Great Northern Diver.—Immature birds tolerably numerous in the Firth, and frequenting the shallow water on the sand-banks, as well as the deep off the rocks and outside the entrance. I saw one of these fine birds vainly endeavouring to get a "dab" down its throat. The little fish, however, proving altogether of the wrong shape for his dinner, he was obliged to give up the attempt. I shot a young specimen one day, which I wounded in the act of diving, rather a rare piece of luck I imagine: he weighed eight pounds and three quarters, remarkably heavy for his size. They are easily got near by keeping quite still in the boat, and then, by the old plan of putting on the "spurt" when they dive, a tolerable shot may often be got at them.

Redthroated Diver.—More numerous than the great northern diver, most of them young birds. They are all called "loons" in the neighbourhood: this is also the name by which these divers go on this coast.

Cormorant and Shag.—The common cormorant is more plentiful than the shag; they associate together in roosting, in great numbers, on a lofty cliff in the South Suter. They are both called "scarfs" in the neighbourhood. Every morning the cormorant might be seen winging his way, generally alone and flying near the surface of the water, round the rocks and up the Firth, to some chosen feeding-ground, and returning in the evening to roost, nearly always in pairs, and flying high in the air. By far the greatest number, however, I met with in the deep water at the mouth of the Firth, where they might be seen diving sometimes in what I know to be tremendously deep water, and at other times fishing near the shore, or sitting lazily on the point of some favourite rock watching the fishermen taking up their nets. The cormorant and his brother the shag are certainly fine birds, and how graphically Mr. Blake-Knox describes them, when he says of the latter "he looks like some evil spirit coming upon you, his body looming tremendous in the fog." Their diving powers are very great, but they go to work in a different way when they dive for safety. It is amusing to watch them when, unmolested, they are fishing; how they jump out of the water, turn a "somerset" and take a regular "header" into the finny depths; but then when they are "up for diving," and you have fired at them once or twice, they swim low in the water and are out of sight like a shot, as quick as a northern diver. One sunny frosty day I watched numbers of them sitting on their perches in the great cliff I have mentioned above, drying themselves, opening their wings ever and anon, and then launching themselves heavily into the abyss they would fly out in a small circle and return with a soar to their nest. I often saw them, like the great northern diver, endeavouring in vain to swallow "dabs" and flat fish, and after tossing up their heads and shaking them from side to side they would throw away the fish, and generally rise from the water and fly away. While writing on the cormorant I cannot forbear to remark on Mr. Blake-Knox's excellent letter on the shag. It is exactly in coincidence with my little experience when he says "they do not dive at the flash." I have always noticed that the shot from the gun always strikes round the shag or cormorant before he dives, and have often wondered how he escaped. The fact is, their feathers are saturated with water and the shot glides off them like so much india-rubber, and thus, if the head and neck escape, they are all right. The suggestion which Mr. Blake-Knox makes about the use of the stiff, long tail, is, I am convinced, the right solution of the question: any one who gives a thought to the matter must see what a splendid lever this singular tail is to the bird in assisting it to spring out of the water in diving, and it probably also is a good means of steadying it, when, with its body in a perpendicular position, it is forcing its bill between the stones at the bottom. In the first instance the tail acts in the same manner as that of the kangaroo in leaping. Mr. Blake-Knox may be quite right in saying that these birds do not gorge themselves after the manner of the gannet, for instance; but I will relate the following fact which seems to me to bear somewhat upon this question. While drifting along the other day, near the edge of a mud-flat in Nigg Bay, we came upon a cormorant sitting bolt upright on the flat, about two hundred yards from the water, and looking in his loneliness something like one's idea of the "pelican in the wilderness." Upon my friend getting out of the boat and walking with murderous intent towards him, he presented a ludicrous appearance; he was sitting with his back towards his approaching enemy, a position which he did not alter, but looked askance at him over his shoulder and twisted his long neck and head from side to side, after the manner of a weathercock in a gusty wind. There he remained till a deliberate "pot" knocked him down, when he commenced to decamp by flapping along the sands; he was caught, however, and showed considerable fight. He had not the appearance of being gorged. I did not open him, as I did not give much thought to the circumstance at the time, and as I wished to send him away in the flesh along with other specimens. What was the cause of his inactivity?

Grallatores.—The commonest of this class was the ringed dotterel. They frequented the shingle in small flocks, and in twos and threes. They became so tame during the frost that I often observed them running about close to the fishermen's huts. Redshanks, dunlins and a few godwits I met with on the flats of Nigg Bay; and had I taken the trouble to visit the sands there and collect specimens of this family I dare say I should have met with many other members of it, as the locality was very favourable to their habits.

Rock Pigeon.—There are numerous caves in the rocks and cliffs of both the Suters, some of which swarm with these birds; they are associated largely with tame pigeons, which may easily be detected by their plumage as they sit on the ledges of rock or dart out in little flocks from the caves.

Cornish Chough.—I saw one of these birds in company with a flock of rooks on the shore of the Firth. He was flying down with them, in a high wind, to the beach, and resembled them in action, flight and size, being only distinguished from them by his long red bill. A friend tells me that these birds still breed in considerable numbers on the coast of South Wales.

P. S.—Referring to Mr. W. Jeffery's notice of my remark on the note of the sedge warbler (Zool. 9837), though I used the words "*it imitates,* in quick succession the sparrow, the lark and the swallow," &c., I meant rather that its warbling *was an imitation* of these birds, not that it mocked them as a mocking bird. I am inclined, too, to think that these are the real notes of the bird, for it generally, so far as my experience goes, commences and ends at one time the same as at another.

W. VINCENT LEGGE.

Shoeburyness, February 12, 1867.

Erratum.—There is an error of the printer's at Zool. S. S. 603, line 14: instead of "laid the eggs *in the bath,*" it should be "*on one side.*"—*W. V. L.*

Ornithological Notes from the County Dublin. From the Log of the "Gray Gull." By HARRY BLAKE-KNOX, Esq.

(Continued from Zool. S. S. 483.)

SEPTEMBER TO THE END OF 1866.

Migration and Hybernation of the Corn Crake.—September 1. To-day, while waiting in Dalkey Sound to shoot some great blackbacked gulls, half a gale coming from the southward, I saw two herring gulls feeding on the remains of a dead corn crake. On taking it into the boat I found it quite fresh, and the lungs only devoured; its body and viscera were literally packed with fat of the whitest and hardest condition, like what we find on our fine Christmas capons after a good night's frost in dear old jolly Christmas-week, dead of course, and decked with holly in the butcher's stalls. How I ramble! but then I am a gray gull, and perhaps by one of my ferocious species, vagrants always, was the poor corn crake struck down, or perhaps, becoming exhausted in its autumnal rambles, was drowned: this latter point I could not determine, as the lungs were gone. That it should attain such a quantity of fat just before migrating seems very inconsistent with a long and fatiguing flight; such a bird I would expect, when flushed, to fly for the nearest hedge, skulk there and not rise again, as they often do in autumn. To dream of one of my gamey little bloods in this state of fat, and I trying to get even ten miles an hour out of him, would be a shocking nightmare to me, and I am sure that a man in the same state of fat would think it no nightmare to have to walk smartly for one short hour; but then all this may have nothing to do with birds: those who tell us that this fat is for sustenance in the "long flight" at all events will say so. Somehow I cannot divest myself of the belief that the corn crake hybernates, notwithstanding my having found it repeatedly dead in the sea, both during autumn and spring, which many would say should prove migration to the most sceptical. I do not for one moment doubt that it leaves Ireland in numbers in the autumn, but where does it go? Does it hybernate where it goes to? Is it to be met with anywhere in numbers, flying or running, during our winter? Does it only crake in its spring or summer haunts? In support of hybernation, we have this great amount of fat, coming on winter (corn crakes often burst from fat when shot and fall to the ground), which all hybernating animals attain; the number of uninjured and healthy birds found in Ireland during winter, their peculiar skulking habits at this season, the old hollow ditches they frequent, their peculiar apathy and disinclination to fly, and their early appearance, without "craking," along the sedges of rivers (I have seen them in the middle of March), which would be the first places they would make for after their winter rest. I do not see why hybernation of birds is so much scouted, for scores of animals and millions of insects do so. Many fishes, too, become so torpid that you may fish weeks and not get one, yet some fine day dozens of the kind you look for will reward your patience; still you have been told or read somewhere that that species migrates from our shores in autumn, "to seek more genial seas," and that is why they are not caught in winter. The subject is very far from being absurd, though many have considered it equally so with "corn crake turning to water rail." Though I knocked down a ditch some years ago in January, and turned out three living corn crakes, and ate them too, still it stands for nothing—no "big gun" of an ornithologist saw it, therefore "I must have mistaken the bird; but the next time send us the ditch and the bird in it—mind, in it—and *we* will tell you whether the birds are corn crakes or not."

No one but the "we," of course, can discern a corn crake from a water rail, a singing redwing from a throstle, a viper's young one from a viper's tongue; nowhere but in London can a thing be solved. In the year 1861, during November and December, I used frequently to turn out of a particular hole one of these birds; I caught it at last one night in the hole—nest, I might say, for it was thickly bedded with leaves from a neighbouring dunghill, on which beech-leaves had been thrown, but I let it go after some time—in honesty, not through kindness, but because I could not help it, for it could pass through any hole, almost, as Paddy used to say, "as limber as a glove." I could also state many instances of dogs chasing corn crakes in winter to holes, and in one case remember how nearly I was summoned for tearing down a man's ditch, "in pursuit of rats," as he said, though he had two eyes and saw the bird run from hole to hole. More learned men than he may have often thought the same thing. Hybernating, in my view, would not mean a dead, torpid state; I should consider it a sleepy inactive state, —a lying up in cold weather and a temporary arousing during genial days,—and in this state I have met the corn crake in winter. I do not say distinctly that it does not migrate, for though I am a sea-soaring bird I can tell but little of its passages across the seas.

White Martin.—Sept. 3rd. My gunmaker, Mr. Weeks, of Essex Quay, Dublin, very kindly presented me with a stuffed specimen of the martin in a creamy white state of plumage. Like all white examples of this bird that I have seen, the natural white spots on the tail show much whiter than the surrounding parts. This bird was killed at Balbriggan, in this county. Notwithstanding that it was hard shot, had laid a day and a half in the shooter's pocket, was sat upon, and lastly finished by one of our atrocious Dublin stuffers, some resemblance to the martin is luckily to be seen.

Migration and Powers of Flight of the Redthroated Diver.—September 5th. To-day, while cruising in the Bay, I saw the first redthroated divers of the season: there were three in all, and young birds of last year, as I could distinguish by the clear white of the speckles; adults in September are always in faded nuptial garb. This is a very early appearance, October being the general month of arrival. Their stay away this year has been little better than three months, as many were off the coast as late as the middle of May: I count this early arrival as a bad omen for an abundance of this bird this year, and so much the worse for my researches; but I cannot repine—they were plentiful enough last year, goodness knows, and let the northern diver have his turn now. Is it not strange how they take year about to come in numbers? I have always remarked when sea birds arrive early in autumn they migrate further somewhere,—of course I do not know where, and I will not copy the hackneyed expressions, "sunny seas," "genial climes," "balmy south," &c., but they do not, at all events, winter off our coasts in as great numbers as when they arrive late. September 28th. To-day I shot in Dalkey Sound a very tidy little specimen in its first plumage, and though he was but a "gosling" (for he could not have been more than three months old) he flew like a—what?—like a redthroated diver—yes, nothing flies better—like a redthroated diver at the approach of the boat; but his "winnowing pinions" were to meet a premature check, and he now stands amongst the duplicates in my collection, labelled "First Plumage." Oh! ye that put faith in those whose writings tell you that the Colymbi rarely seek escape by flying, and the northern diver never, will be sadly disappointed when you come to chase them. Scores upon scores of times have I been compelled to give up a chase in consequence of their taking wing—yes, and at times, too, when my wind and sinews would be settled to their work, and my boat feel as if a part of myself—when their life was mine as certain as the oar in my hand if they kept to diving; aye, and they would know it, too, and take to flight, but often then the floating case of an exploded cartridge could tell a tale of a flight cut short. In spring the redthroated and the northern divers are next to impossible to procure, on account of their taking wing half a mile from the boat. When on the wing, however, they are great fools, and will fly within oars' length of the boat they so much dreaded when swimming. They are extremely hard to shoot on the wing when giving a side shot, on account of the velocity of the flight: I find to aim three feet ahead quite little enough for every ten yards, so that a bird at forty yards will require an allowance of twelve feet.

The Redthroated Diver no "Redthroat" in Winter.—October 3rd. After a very arduous chase to-day, I killed, alone and unaided, five redthroated divers: three were adults in the autumn moult, one (fired at in despair) had the head cut off by an Enfield ball, two were young of the year. Two of the adults were in strong moult, there being a good mixture of both seasons' feathers; the third, a good shot specimen, is in the faded summer or my adult summer "plumage B," in some parts showing new feathers of the winter, but on the whole being in adult summer dress: he is in my collection. This bird I think should prove to the most sceptical that the redthroat, &c., is only a summer plumage.

The two other adults Temminck and his disciples would call in their second year. Many of these autumn adults as I have killed, I never examined any so closely as I did these: there were the faded and worn feathers of summer loose and sapless in the skin; there was the body thickly covered with the new and speckled feathers of winter, in all stages of maturity, from the incipient pen to the perfect feather; there was the *worn* and *loose* red throat concealing the sprouting white feathers; there were the lead-coloured sides to the neck and the streaky mane—all very volatile to the touch, and giving place to the winter garb; there was the black bill turning into livid, and there were the *ovaries that had multiplied their kind.*

The Redthroated Diver no "Redthroat" till Two Years old.—October 28. Of four redthroated divers shot to-day I picked out a most valuable bird to me—a long-known and long-looked-for link in my present series of this bird: it is the second autumn moult, and connects the second summer and second winter. Notwithstanding what we read I presume that most *observers* know that the redthroated diver assumes no red or gray on the throat till the second spring; that is, not till nearly two years old. I can now illustrate this both in the first spring moult and the second autumn moult.

Scarcity of the Redthroated Diver in Dublin Bay at the end of 1866.—December 26th. My foretellings are right. Northern divers, market stocked; redthroated divers, a great demand, but no show; a few yearlings changed hands. The Fenians can have nothing to say to this, as the prohibition to carry arms has shut up many an old leveller. For the "good of trade," we hope Government will keep all marauders off Dublin Bay except the "Gray Gulls." Our opinion is, if such was done things would look up again.

First Arrival of the Purple Sandpiper in 1866*: Habits.*—Oct. 20. Winter has set in; I saw the first purple sandpipers of the season. Dear little creatures! you are just as tame to-day as you were in those good old years, alas! now past, when I, in love with you, would lie down beside your little flocks and watch you feed and pick and play not an arm's length from me, and oh! what thrills of joy your sweet low plaintive notes, when two met, would send to my heart, for I then knew few had ever heard such notes, or had ever been so near to you in *real life,* or ever seen that deep purple back shine like some rich topaz beneath the rays of the setting sun, when every sea-drop hanging to the weird brown sea-weeds were sparks of fire, and the sea laving our granite rock with ceaseless murmurs seemed throwing mimic waves of gold to our feet, as if rejoicing that man could show some love for aught but the gold it seemed to be. How few have seen those nimble feet pattering the edge of the receding wave and not heeding the returning swell, except it rose beyond the tarsi, and when it did to see those white-marked wings open and lift their resplendent burden, uttering a soft sweet cry to some shell-grown pinnacle, on the mural sides of which, going down, down, down to the "mermaid's caves," bloom the gorgeous sea anemones, bright star-fish, feathery Algæ, and pearly shells. How few have watched you, when your repast was done, run with wings elevated and meeting above the back, and chase each other from point to point in playfulness and joy; then stretched in noisy flight out on the now darkened sea, but only to return and settle in a little clump, with low crouched heads and down-pointing bills, till hunger again calls forth your latent energies. Peace! thank God that I have seen it, and know that it can be met on earth! Peace, rudely broken peace by him who tells you this, for that sharp-ringing crack, that gray-looking vapour stealing away on the calm night air, tells a tale of suffering, and yonder poor "black maw" (great black-backed gull) floating beneath the cold silvery moon, some hours risen, denotes the victim. This was his roosting rock, and I was covetous. * * * *

On the Autumn Moult of the Gray Phalarope.—November 1st. The Rev. M. A. Mathew, writing from Weston-super-Mare (Zool. S. S. 500), informs the readers of the interesting fact that the feathers of the phalarope rejuvenate or transmute instead of moulting in the autumn. Though I never had the pleasure of noticing this in the phalarope (though I have in many other birds), any examined by me changing the plumage by a perfect moult, still I observed a very great peculiarity in the texture of the feathers, that is their great lightness and transparency. In the winter gray feathers this transparency is most apparent, for when overlapping a summer feather the summer feather can be seen through it as through a mist. This is decidedly the frailest and lightest of our birds for its size and bulk. It is a beautiful little fairy creature; and the most innocent, harmless and confiding of our birds. What a pity its innocent habits, and its wind-bound and forlorn condition, did not earn for it a better reception at Eastbourne and vicinity: truly Mr. Dutton's account, though well meant and not inculpating himself, is a very butcher's bill.

Migration of the Blackbird.—November 5th. There have been inquiries in the 'Zoologist,' as to what becomes of the old robins in summer, but I would put another question, What becomes of blackbirds, old and young in the same season? I am sure that many must have noticed that during the spring they breed in numbers, and rear quantities of young, but from June very few are to be seen, except those that frequent gardens; I speak of Ireland generally: I know that in September and October miles of hedges may be traversed and not one seen, but in November, when the haws are ripe, every hedge and garden is full of them, old and young. Nowhere can we go countryways but we hear their cheery cries, and I know persons who have at this season shot several dozens in a day for making pies. They are capital eating, at this time of year, if treated like game, kept till high, and served up underdone. In a few weeks the bulk of the haws are devoured, and the body of the blackbirds disappear with them; I attribute this to the tide of emigration; but still, where do our breeding birds and their young go to during summer. My theory would be, and take it for what it is worth, that the birds who have successfully reared their young in time, who have not been delayed by robbery, and many of the young migrate, southwards after the breeding season to meet the early fruit, and that they gradually advance northwards again in a body following the ripening haws, and then winter as best they can in their old spring haunts. Constant watching has confirmed my belief in the migratory part of this theory.

Nocturnal Melody of the Robin.—In the 'Field' newspaper there has lately been a discussion concerning "nocturnal melody," some blaming frogs and others birds of making a low, plaintive, ventriloquous "weet-weet." All through I believed this to be simply the note of the common sandpiper, and I remark that others are of the same opinion, though not the first speaker. Well, I am not going any further into this class of nocturnal melody; I wish to state another kind, and also the bird that makes it; I allude to a long drawn "iz-weet," though sharply and quickly pronounced, if a long-drawn sound can be quickly sounded, made by the robin, rarely at any time but night. At first on hearing the cry, whilst night-shooting on our wild granite-coast (by-the-bye, during winter the robin is very partial to our sea-rocks, cold and bleak as they are), I could not think what made it: its lowness, yet piercing distinctness, now in my ear, now a long way off, yet always proceeding from the same spot, used to raise most uncomfortable fancies in my mind, and also cause a peculiar tingling sensation about the scalp—next thing to the hair standing on end. Although for ghost, mortal or danger I do not know fear, nor am I at all superstitious, though many a tale of dread is told of the same spot, yet whenever I hear that unearthly "iz-weet," though I know it now to be the robin, having seen him make it, I always feel as if something was wrong with the roots of my hair. So much for "weird notes."

Food and Destructiveness of the Wood Pigeon.—I was very glad, on reading the 'Zoologist' this month, to find a voice from Ireland, from my neighbouring county Wicklow, and one so accurate and to the point on the destructiveness of the ring dove (S. S. 498); my observations of this bird, being made in this and Mr. Barrington's county, are fully in support of the great mischief done by the "wood-quest" to the agriculturists at certain seasons of the year. Frequently I have taken a measured pint of wheat from the crop of an individual, and it still feeding at the time of being shot; they are also I know very destructive to turnips. Wheat is the favourite grain, barley next, and oats least sought after, I should say on account of the amount of chaff adherent to the grain. They prey greedily on turnips, rape, vetches, peas, &c., feeding both on the young shoots and the seeds; among various other luxuries may be particularly mentioned beech-nuts and oak-mast, the berries of the ivy, holly, &c. Shoot the "quest" by all means in season, as a good eating bird, not a whit inferior to the partridge if similarly treated, but do spare the wary bird grown tame, for who does not know of its extreme tameness and confidence in man during the breeding season. "Coo, coo" on, blue wood-quest, for while there are wide demesnes with their spreading trees, as willing to receive your airy nest and your two chalk-white eggs, as are the kind hearts of their owners to grant you an asylum, you will never be exterminated. *Where do they go after the corn is gleaned?* is a question I have often heard put. There is an answer to this question prevalent in many parts of Ireland. "To the thick woods, to escape from the hawks while their quills are moulting." Not so ridiculous an answer either, as that is the time of moult, and hawks are their great enemies; but still I scarcely consider it the thing, and would be more inclined to think that they visited these thick woods in "quest" of the beech and oak-mast. They certainly do leave the open country at this time of year, and are rarely seen except flying from one wood to another. There is another fact that not a quarter of the birds seen in the corn season belong to the locality.

Abundance of the Bullfinch in Dublin in 1866.—I never remember to have seen the bullfinch so plentiful as it has been this October and

November; a wave of them seems to have passed through the county southwards. Rarely would you pass a hedge without seeing some of these beautiful creatures, or hearing their melancholy "T-you." The bills of a few shot were deeply stained with blackberry juice, and I watched dozens feeding on the wild fruit.

Chaffinch: Separation of the Sexes.—We had immense flocks of chaffinches this year: their great body were females, sprinkled however with males. These flocks frequent old potato-lands more than any other, and I strongly think are composed for the most part of foreign migrants. Plenty of males are to be seen with their females all winter through, by the roadsides and elsewhere, in this county; these I look upon as our indigenous birds.

Second Occurrence of the Blackthroated Diver in Dublin Bay in 1866.—On the 19th of November I shot a bird of the year of this rare diver.

Occurrence of the Longtailed Duck in Dublin Bay in November, 1866.—There was an example of this herald-duck shot in the Bay this season. Through some oversight I omitted this species in my list of the migrants to this county in winter. I have seen four or five examples, chiefly young birds shot on the coast, and Thompson mentions several as occurring on our Dublin shores. Will readers kindly add "*Longtailed Duck,* occasional winter visitor," to my list in their 'Zoologist' for 1866.

Pied Blackbird.—December 15. To-day, whilst driving to Collery to shoot, I saw on the road, outside Sir George Hodson's, a pied blackbird: his misfortune did not tempt me to shoot him, so I hope he is still to the fore among the baronet's beautiful evergreens.

Pied Woodcock.—I had just shot two snipe right and left on the Sugar Loaf, when a woodcock nearly all white sprang. I had a cartridge in only time enough to hit him hard without killing him.

Guillemot in Summer Plumage in December.—December 20th. I was greatly surprised to see a guillemot in summer plumage bearing down upon me: enormously rapid as was its flight as it passed me I aimed the right distance ahead, about fifteen yards, and killed it. So great was the velocity of its flight that it progressed about thirty yards, spinning like a wheel before falling. The secret of the reputed impregnability to shot, said to be possessed by the feathers of these birds, lies in not aiming enough ahead. I can kill them handy enough with No. 7 on the wing, and my little breech-loader, made by Weekes and Son, of Dublin, can lay low the biggest goose or cormorant with the same shot at thirty yards, and with No. 2, my favourite grain, I fear nothing up to fifty yards. Many have told me that they aim but a foot ahead; they of course strike the spot aimed for, but the bird leaves the shot eight or ten yards behind him. This bird was in full fresh summer dress, the head and neck still moulting, the sprouting feathers being black; in the chin were some white winter feathers. It was not that the bird had retained, by bad moult or sickness, the summer dress of 1866; he was assuming, in December, 1866, the plumage for the summer of 1867. Such a bird I should have expected to meet in April. May not this account for some of the "red throats" and summer plumaged Colymbi found in winter? It is decidedly, though, an abnormity, as the bird may be met in thousands half in winter and half in summer plumage in March; and the same way, though *vice versâ* in August and September.

Shag crested at Christmas.—December 24th. The "Gray Gull" was among the shags to-day; they are growing scarcer every year, I am sorry to say; this winter they have almost deserted the Dalkey shores. I saw a good many in this their loved winter haunt, but very local—a sad sign this localness, and one I dread. I wished to prove clearly to all concerned that they are crested at this season, so I limited myself to kill three. Selecting my old position I quickly shot the desired number as they flew past, and also a northern diver on the wing. Two of them unfortunately were only in second winter (see S. S. 256): when the plumage is wet it is difficult to distinguish them at any distance from the adult. The third also had never bred, being in its third winter (S. S. 256), but she had, however, and early too, began to assume the crest, quite enough to corroborate me. I forwarded this bird's head to Mr. Newman, as proof of my former statement, and I hope those who wrote to me as being too sweeping in my writings will be now convinced of their injustice; I hope also to live to sweep some of the mildew off the common things of the sea. Ornithology has so long been governed by men unversed in its "rude realities," and most of the standard works are so full of "wild fancies," that I stand prepared for any amount of contumely my *optical observations* may engender. I consider that the sooner ignorant notions are dissipated the sooner will true Ornithology flourish. I will therefore in my writings quote and refute as many of the reigning absurdities as I can, and although I may get the name of being dogmatical I will never, to use a vulgarism, "suck up" to the writings of any man, when

I find that he has written at random, or, worse again, copied from the errors of others. I saw many adults fully crested, but had promised to myself to kill but three, so I did not destroy any more.

The Cormorant has not the White Leg at Christmas.—Many cormorants passed me, and none had their "shirts sticking out of their breeches," or, as Thompson says, "the watch under the wing." In another week this plumage is assumed.

Missel Thrush.—December 25th. The missel thrush was singing on Christmas day.

The Second Primary of the Wood Wren.—Notwithstanding the dissimilarity said to exist between my sketch (S. S. 300) and the second primary of a wood wren possessed by Captain Hadfield, I can only say that very many agree with my figure. If it had been artistically done it might have looked better and been simpler in its parts had the shaft been brought in, but as it stands it is correct, and could not be otherwise, as I laid the feather down and *traced it for accuracy.* The relative lengths and the tips of the feathers are the only parts to be looked to for distinction. It will be seen that the points resemble three very common penknife blades in that part. If I am not mistaken I laid Captain Hadfield's feather on my sketch, and found that when pressed flat it just fitted into it. No feather is naturally flat, and I may have erred in making my sketch so, but it is of no consequence to the practical man; the point and the length, where the distinction lies, are accurate. As to Macgillivray's outlines, I find them very inaccurate: I will say no more, but try them. Let it be understood I do not run down Macgillivray: I consider his work on birds the best in Britain, that is the letter-press, and his vignettes about the worst of any modern authors; they spoil the book.

HARRY BLAKE-KNOX.

Dalkey, County Dublin.

Ornithological Notes from Shetland. By H. L. SAXBY, M.D.

(Continued from Zool. S. S. 442).

1866.

Ruff.—Two specimens of the ruff, a species quite new to our Shetland catalogue, were obtained in this island in September, one on the 8th, the other on the 26th. The first, a female, was shot in some marshy ground near the Loch of Cliff. The bill was nearly black, rather paler at the base; the legs and feet lead-colour. The second specimen, a male, was by far the larger of the two, measuring twelve inches and a half in length, the female being two inches and a half shorter. They were much alike in plumage, but in the male the bill was yellowish at the base; the legs and feet dark dingy yellow. It was shot on the beach at Baltasound while feeding with some tame pigeons. The stomachs contained small coleopterous insects and a little sand.

Ring Ouzel.—On the 30th of September, during a strong east wind, a young female ring ouzel was shot at Halligarth. The stomach was full of rowan berries.

Osprey.—A young male of this rare species was brought to me on the 1st of October, by a Burrafirth man, who had just found it, struggling with a broken wing, upon a piece of rough ground near the sea. The feathers of the head and upper surface were of a much darker brown than those of an adult, their pale yellowish white edges causing a very beautiful appearance, at the same time affording proof of the immature age of the bird. The stomach was quite empty.

Turtle Dove.—On the 4th of October (wind S.E.), a turtle dove appeared at Baltasound, where it remained nearly a week.

Redbacked Shrike.—I shot a young male redbacked shrike at Halligarth on the 5th of October. This species is not included in any catalogue of Shetland birds, nor, indeed, can I hear of an instance of its occurrence in any part of Scotland. I have carefully preserved the skin.

Little Grebe.—The little grebe is never common here, but this winter the number observed has been rather larger than usual. An adult female, shot on the Loch of Cliff, on the 29th of October, is now in my collection.

Bohemian Waxwiny.—An adult female of this beautiful species was shot at Halligarth by Mr. Thomas Edmonston, jun., on the 30th of October. It arrived on the 29th, during a gale of N.W. wind, which had probably separated it from a flock. We made a most careful search in every likely place, but were unable to meet with another example. Upon the secondaries of the left wing there were four of the well-known wax-like appendages, on those of the right wing only three. The yellow tips of the tail-feathers were much paler upon the left side, and the feathers themselves were slightly longer than those of the right side. The stomach contained a few rowan-berries.

Little Auk.—On the 30th of November, during a gale from S.E., a little auk was found in a wet ditch not more than fifty yards from the sea. The stomach was quite empty.

HENRY L. SAXBY.

Baltasound, Shetland, December 31, 1866.

Ornithological Notes from North Lincolnshire.

By JOHN CORDEAUX, Esq.

(Continued from S. S. 548).

JANUARY AND FEBRUARY, 1867.

Plovers, Golden and Green.—The sharp frost, commencing with the new year, occasioned a general exodus of plovers from the North Lincolnshire marshes; and on the 2nd of January not one was left in those places where a few days previously they had congregated in thousands. It has often puzzled me where all the plovers go to during a season of frost and snow, certainly none remain here, or on the Lincolnshire sea-coast; and when all places are alike in our Island, as during the severe weather in January, the earth frost-bound, and with a deep covering of snow, they may probably leave the country altogether. Perhaps some of the numerous readers of the 'Zoologist' will say whether they observed any unusually large flocks of both these species in any locality during the continuation of the severe weather in January. If they remain in England I am quite sure that the advent of these immense flocks of plovers in any other quarter of the kingdom must attract attention. On the 23rd a rapid thaw commenced, and on the morning of the 24th the marshes were clear of snow; and on this morning, a few hours after the disappearance of the snow, considerable flocks of golden plover had returned to their old haunts. The peewits did not, however, come back till fully ten days after this date. I was surprised to find, out of some twenty golden plovers shot in the marshes on the 9th of February, one which had nearly acquired the black pectoral livery of summer, the others as yet showing no appearance of any change of plumage.

Wood Pigeon.—During the severe weather of January, hundreds of these birds daily frequented the turnip-fields, feeding on the green tops of the swedes and common turnips; they appear, however, to give a decided preference [illegible] the latter plant. In two contiguous fields in this parish, the one swedes, the other the common white-globe turnip, they invariably congregated in much greater numbers on the white turnips, to the comparative neglect of the swedes. They also drilled holes with their bills into the bulbs of the swedes, which is surprising, considering the turnips are frozen as hard as stones: they thus often do considerable damage to the root. As a *general rule*, however, I found that the outer skin of these swedes, thus operated upon, was more or less previously injured, either by the bites of hares or rabbits, or the punctures of some insect. I only found a single instance of grain in the crop of wood pigeons during the severe weather, and in this case the bird had swallowed entire some half heads of wheat, evidently taken from some stack side.

Wild Ducks.—Every species of wild duck has been extremely scarce during the winter in the Humber district. The return of wild fowl killed by a gunner from a "canoe" on this coast is remarkably small, not more than half a dozen widgeons. An old wild-fowl shooter told me the other day that he never knew wild-fowl plentiful on the Humber, no matter how severe the weather, after Christmas, unless there had been some severe weather, frost and snow, earlier in the season, to drive the ducks into the Humber. If they came in before Christmas they remained the winter, if not they never came in at all. The only ducks I have shot on our streams this season have been a few mallards. They were in extremely fine condition, one in particular weighing three pounds within an ounce.

Snow Bunting, &c.—The severity of the frost, as well as the great depth of the snow, in this district, totally excluded our smaller birds from obtaining their living in the open country. Large flocks of various species were driven to seek shelter and food in the fold and stack-yards, eagerly contending for any stray grains of corn under the rick sides. I have thus seen, at the same time, twites, linnets, chaffinches, greenfinches, blackheaded buntings, corn buntings, yellowhammers, hedge sparrows, thrushes, blackbirds and starlings, all actively foraging; occasionally a flock of snow buntings would join them: these latter birds, however, were in no way inconvenienced by the severity of the season, keeping the open country and thriving when any other bird would have inevitably starved to death. Their favourite haunt was on those grass-lands, where patches of rough grass rose above the snow. It is astonishing with what ease and rapidity they run over the fresh-fallen snow, their broad strong feet and long hind claw are admirably adapted for carrying them easily over a yielding surface. Some which I shot for examination during the severe weather were very fat; their muscular stomachs full of the seeds of various grasses, and several small angular stones.

Dunlin.—Have already seen indications of a change in the plumage of these birds; one shot to-day (February 9th) had partly acquired the rich brown-black and reddish orange feathers on the shoulders, characteristic of the summer plumage.

Gulls.—Thousands of gulls, namely herring, brownheaded and common, with an occasional lesser blackbacked, have for some weeks resorted to the partly submerged meadow-lands, feeding on the drowned worms and slugs: even the solitary and exclusive great blackbacked gull has condescended to come inland and feed in the society of his smaller congeners. It is very rarely that the lesser blackbacked gull remains with us during the winter.

Stonechat.—These little birds have been quite of common occurrence in this parish during the winter. They are much more frequent in this locality than formerly.

Pied Wagtail.—Some few of these wagtails usually remain with us throughout the whole of the winter (Zoologist 9598, 9710, and S. S. 131). I frequently observed one or two of these little birds about the sheep-folds in my turnip-fields up to the end of December. The unusually severe weather early in this year has either killed or driven them away, for I have not noticed any since this time.

JOHN CORDEAUX.

Great Cotes, Ulceby, Lincolnshire.

Erratum.—There is an error in the 'Zoologist,' S. S. 591, line 17; for "southward" read "northward."—*J. C.*

List of Birds noticed in East Finmark, with a few short Remarks respecting some of them. By CH. SOMMERFELDT, Parish Priest of Næsseby. Translated and communicated by H. E. DRESSER, Esq.

ALTHOUGH various notes on the birds occurring in Finmark have been published, still a list of those occurring in East Finmark, with a few short remarks on some of them, may not be altogether uninteresting, as the larger portion of the notes taken are confined to observations made on journeys through the country, and can therefore not be complete. The author of this, who as pastor of Næsseby, on the Varanger Fjord, during nine years, has had a fair opportunity of gaining information both in Næsseby parish district, to which Polmak and Tana belong, and also on journeys in East Finmark, considers himself on these grounds capable of giving a more complete list, the more so, as he has received much interesting information from Mr. Nardvi, a merchant at Martensnæs, who takes great interest in the study of Natural History, and from the Englishman, Mr. John Wolley.

In this list, therefore, no bird will be included with a number, unless it has most certainly occurred. The list may probably at some future time be increased by some few waders and song birds, as some portions of East Finmark, *viz.*, South Varanger and the upper portion of the Tana River, have been but little explored, and Karasjok is not included in East Finmark, which only consists of what lays to the eastward of Sværholt. Possibly various southern and eastern birds may occur in South Varanger, *viz.* Corythus enucleator, Emberiza rustica and pusilla, Anas fuligula, and possibly on the Tana River some of the rarer birds found at Muoniouiska, *viz.* Tringa platyrhyncha, &c.

Before commencing the list, I may be permitted to give a slight sketch of the nature of the country and the climate.

East Finmark's shores are washed by the North Arctic Ocean, which penetrates deep into the country in many fjords, of which the largest are the Laxe Fjord and Tana Fjord from the north, and Varanger Fjord from the east. The northern portion of East Finmark is actually two peninsulas, the one north of Hops and Eids Fjords, the most northern point of which is Nordkyn, the other Varangernæsset (Varanger peninsula), bounded by Tana Fjord, Tana River and Varanger Fjord; on the eastern point of which Vardö lays. These peninsulas, and a portion of the mainland adjoining Hops and Eids Fjords, consist of rather high, flat fells, with higher portions in places and having large tracts covered with rubble and stones, without the slightest sign of vegetation—not even lichens—still one finds here on the masses of snow that remain almost all through the summer the so called "röde sne" (red snow).

On these fell-plains are found large masses, partly flat and even, partly filled with larger and smaller tussocks (Tuer) of peat, generally with black mud between. The fell-plains are intersected by many rivers, along the banks of which we find low down birch and juniper bushes, when it is not cut away for fuel, but further up in the valley is a far richer vegetation of the alpine Flora than one could expect. The rivers spring either from the fell-lakes, of which there are many, some rather large, as Jerisjauri and Nastejauri, or else from mosses or springs. In most of the lakes are found fishes, Crustacea and larvæ, chiefly of gnats, so that both waders and water-fowl find food there.

This, the dreariest and wildest portion of East Finmark, offers in the interior nesting places for Charadrius morinellus, Emberiza nivalis, Saxicola, skuas, Strix nyctea, Falco gyrfalco, Tringa maritima, probably Limosæ and some ducks. In the, in many places, inaccessible fells, near the sea the Lari, Carbones, Uria and Alca torda breed, whilst Charadrius hiaticula, Hæmatopus ostralegus, Sterna arctica, Tringa Temminckii and pipits frequent the sea-shores and the adjacent herbage. Somewhat further up the thrushes, Alauda alpestris, Falco lithofalco, Totanus calidris and glareola, Tringa alpina and some ducks breed.

In the southern part there are certainly fells, but not nearly so dreary and unfruitful. Lichens and grass are generally found everywhere, whilst birch and juniper grow not only alongside of the rivers, but in every dale and in the fell-mosses, besides which the valleys are much pleasanter and more fertile. The most fertile and mildest portions are some few valleys and fjords in South Varanger and the Tana Valley. South Varanger, the portion of East Finmark lying on the south side of the Varanger Fjord, has not unimportant pine forests, some spruce trees (*Abies orientalis*), fine rich forests of birch, alder and juniper, the rest of the vegetation also shows that there is a milder climate; indeed, of late, some grain is said to have been raised there. The remainder consists chiefly of dry heather hills and mosses. South Varanger has, however, been very little explored for Natural History purposes.

The Tana River flows a distance of about twenty-six Norwegian miles, from S.W. to N.E., to Polmak, from whence, after flowing six miles, broad, and in flood time like a mighty torrent, it empties itself in the Tana Fjord. In the upper part it is surrounded by rolling ground covered with verdure, on which evergreens and deciduous trees grow together. Further down, on the Norwegian side, the pine forests cease, and the forests consist of birch trees, alders, ash, mountain ash and bird cherry. Still further down it is closed in by high, steep cliffs, in places half covered with trees, and generally one can find throughout the year large quantities of snow remaining in the higher portions, from which foaming mountain-torrents rush down. From both sides many large rivers empty themselves in the Tana, and increase its volume of water. Both the broad valley chain and the neighbouring valleys are covered with thick birch-woods, mixed with alder and mountain ash, and in many places impenetrable juniper-thickets. Of all the valleys adjoining the Tana that cutting from Polmak north up to the Polmak Lake is the mildest and richest in a Natural History respect, the serpentine river flowing peacefully through the high wood-clad hills. The lowlands in the chain of valleys, which are overflowed in the spring but dried up in the summer, so that mosses covered with high grass and bushes remain, the high sand-hills, the rank, high birch woods, mixed with thick under brush, the solitude and quiet, so seldom broken by the visits of human beings, the Polmak Lake, surrounded by large meadows, green and covered with flowers and trees, and the pine forests in the far distance to the southward, naturally make this a resting-place for birds. Thus many of the rarer birds of East Finmark are found here, *viz.* Muscicapa atricapilla and grisola, Pyrrhula vulgaris and erythrina, Totanus glottis, Cygnus musicus, Anas marila, Falco gyrfalco, Garrulus infaustus, Picus tridactylus, &c., whilst thrushes, finches, warblers and Totanus hypoleucos breed in numbers. With respect to the climate, one might often be tempted to say, as in 1856 and 1857, that East Finmark has eight months winter and four months not summer, but the state of affairs is not always so bad. The winter generally sets in early in October, and is stormy. What is peculiar in the winter here is the sudden change from mild weather to frost, thus within twelve hours the thermometer can fall from freezing point to 24° Réaumur and *vice versa*, but the usual winter temperature here is 15° and 20° R. An even cold spell of 20° is seldom of longer duration than a week, and then is generally changed by northerly storms. We have had it here at Varanger Fjord down to 32° R.

The spring generally commences late in April or in May, but sometimes the snow remains undisturbed until the 8th or 12th of May; but when the south wind comes with rain or sunshine it disappears so suddenly that one scarcely knows how it goes. The birds of passage arrive therefore in May, generally about the middle of the month; but Emberiza nivalis and Anthus rupestris sometimes arrive in April. At first the birds often undergo great privations during the cold weather, accompanied by snow, that we have almost every year when the rivers are free from ice. They then collect in flocks about the houses, where, amongst the refuse and on the roofs, they seek a miserable subsistence.

Generally a more steady summer warmth sets in late in June, but the song birds lay their eggs about the middle, and Alauda alpestris and the thrushes about the commencement of the month, still sometimes not before July.

The heat can be oppressive in the summer, and in Vardö is as high as 24° R.; but during the steady summer weather a fresh wind blows up the fjords from ten to five o'clock, and during the night blows down the fjords. The colder weather sets in late in August, and the nights are often frosty between the 4th and 11th of August. The above has reference to the country between the Varanger and Tana Fjords, where at Nyberg I have, during several yaars, made careful observations on the temperature and changes of weather.

In good summers when the spring sets in early, Garrulus infaustus, Alauda alpestris and Fringilla linaria lay two lots of eggs, the two latter laying the first in May and second in July. It is certainly difficult to determine whether the same bird really lays twice, but the space of time between makes it not impossible. Taking into consideration the position of East Finmark one would be justified in expecting a rather rich ornithological Fauna; however, it is limited to 140 of the 325 species found in Scandinavia, *viz.* fourteen Accipitres, forty-four Passeres, three Gallinæ, twenty-six Grallæ and fifty-one Anseres. But what is wanting in variety of species is to a large extent replaced by the number of individuals in some species. Thus, Corvus corax (in the autumn), Alauda alpestris, Emberiza nivalis, Fringilla linaria, Tetrao alpina and subalpina, Charadrius apricarius, Tringæ, Machetes pugnax, Lari, Anas glacialis, Stelleri and mollissima, Uriæ and Carbones are often found in large flocks; and others, such as thrushes, Motacilla borealis, pipits, Sylvia trochilus and suecica, Fringilla montifringilla, Charadrius hiaticula, Totanus calidris, &c., are scattered all over where suitable localities are found. Thus Nature is not so deserted as one could expect, and on the highest fells, where the tranquillity is scarcely interrupted but by the piping notes of Emberiza nivalis and the Saxicolæ, and the shrill, melancholy cry of the golden plover, one is emphatically reminded of the neighbourhood of the Pole.

It may be of interest and advantage to those naturalists who may visit these regions to know the Finmark (Lapp.)* names of the birds, which I place in a column by themselves: *r* signifies rare; *a*, abundant; * occasionally found; — not found; when in parenthesis they are accidental, and when not numbered are of doubtful occurrence.

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* In Norway the Lapps are called "Finner;" thus it might perhaps be as well to call Finmark, Lapland; but as both names can be used for that part of the country, I have kept to the Norwegian name.—*H. E. D.*

	Species.	Summer.	Spring and Autumn.		Winter.	Lapp. Name.
1.	Aquila fulva; see note 1	*r*	-	-	*r*	Tschiftscha, Nioammel, Goaskem.
2.	Haliaëtus albicilla	*a*	-	-	*a*	Goaskem.
3.	Pandion haliaëtus; see note 2	*	-	-	—	Tschiftscha.
4.	Buteo lagopus; see note 2 *b*	*a*	-	-	*r*	Biekkan; Boaimash.
5.	Falco gyrfalco; see note 3	*a*	-	-	*a*	Riefsakfalle.
6.	„ peregrinus; see note 4	-	-	*r*	-	
7.	„ lithofalco; see note 5	*a*	-	-	-	Tsitsaschfalle.
8.	Astur palumbarius; see note 6	—	-	*	*	Tschuonjafalle; Njirse.
9.	„ nisus	*r*	-	-	—	
10	Strix nyctea; see note 7	*	-	-	*	Skuolfe.
11.	„ funerea, *Lth.*	*	-	-	*	Girjelodde.
12.	(„ lapponica); see note 8	—	—	*r*	—	Aapu (i Enare).
13.	(„ bubo); see note 9	—	-	-	-	Lidno.
14.	„ brachyotus; see note 10	?	-	*r*	—	Igjalodde.
15.	Cuculus canorus; see note 10 *b*	*	-	-	—	Giekka.
16.	Picus major	*	-	-	*	Tsitsasch-tschaitne.
17.	„ tridactylus	*	-	-	*	Tschaitne.
	(Upupa epops); see note 11					
18.	(Sturnus vulgaris); see note 12					
19.	Corvus corax	*a*	-	-	*a*	Garanas; Buldogas.
20.	„ cornix	*a*	-	-	*a*	Vuortsches.
21.	„ pica; see note 13	*r*	-	-	*r*	Ruoschschagaranas.
22.	Garrulus infaustus; see note 14	*a*	-	-	*a*	Gnofsak.
23.	(Bombycilla garrula); see note 15	—	-	-	—	Bæljerastasch.
24.	Hirundo rustica; see note 16	*r*	-	-	—	
25.	„ urbica; see note 16	*	-	-	—	
26.	„ riparia; see note 17	*	-	-	—	Spalfo.
27.	Muscicapa grisola; see note 18	*r*	-	-	—	
28.	„ atricapilla; see note 19	*r*	-	-	—	
29.	Lanius excubitor	*	-	-	—	Utseb ruoscha-garanas.
30.	Turdus pilaris	*a*	-	-	—	Soakkerastes; Bafterastes.
31.	„ iliacus	*a*	*a*	*a*	—	Miestag rastes.
32.	„ torquatus	*	-	-	—	
33.	Cinclus aquaticus; see note 20	*	-	-	*	Guoikgarek.
34.	Motacilla alba	*a*	-	-	—	Bæschtor.
35.	„ flava	*	-	-	—	Fiskis tsitsasch.
36.	„ „ borealis; see note 21	*a*	-	-	—	*Id.*
37.	Anthus rupestris; see note 22	*a*	*a*	*a*	—	

Species.	Summer.	Spring and Autumn.		Winter.	Lapp. Name.
38. Anthus pratensis	*a*	-	-	—	Duolva tsitsasch.
39. „ cervinus, *Pall.*; see note 23	*a*	-	-	—	Siedga bæschtor.
40. Saxicola œnanthe	*a*	-	-	—	Gædgerastasch.
41. Sylvia trochilus; see note 24	*a*	-	-	—	Riefsaktsitsasch.
(„ sibilatrix); see note 25					
(„ schœnobænus); see note 26					
42. „ suecica	*a*	-	-	—	Gjelavælgo.
43. „ phœnicurus	*r*	-	-	—	
(Accentor modularis); see note 27					
44. Parus sibiricus; see note 28	*	-	-	*	Gatsip.
45. Alauda arvensis; see note 29	*r*	-	-	—	
46. „ alpestris; see note 30	*a*	*a*	*a*	-	Ruoscha alap.
47. Emberiza citrinella; see note 31	*r*	-	-	—	
48. „ schœniclus	*r*	-	-	—	Tschatse divek.
(„ rustica); see note 32					
(„ pusilla); see note 32					
49. „ nivalis	*a*	*a*	*a*	*	Alap; Halap.
50. „ lapponica; see note 33	*a*	-	-	—	Tschappis vuovlasch.
51. (Fringilla domestica); see note 34	—	*r*	*r*	—	
52. „ montana; see note 34	*r*	-	-	—	
53. „ montifringilla	*a*	-	-	—	Vintan.
54. „ linaria; see note 35	*a*	-	-	*a*	Omoltsitsasch.
55. „ canescens; see note 36	-	-	*r*	-	
56. Pyrrhula vulgaris	*r*	-	-	—	
57. („ erythrina); see note 37					
58. (Loxia curvirostra); see note 38	-	-	*r*	-	Batsaklodde.
59. Columba turtur; see note 39	-	-	*r*	-	
60. Tetrao urogallus; see note 40	*	-	-	*	♂, Tsuftsa; ♀, Goappel.
61. Lagopus alpina	*a*	-	-	*a*	Geron.
62. „ subalpina	*a*	-	-	*a*	Riefsak.
63. Charadrius apricarius	*a*	*a*	*a*	—	Bitschus.
64. „ morinellus	*a*	*a*	*a*	—	Lafol.
65. „ hiaticula	*a*	-	-	—	Bovidak.
(„ helveticus); see note 41					
66. Strepsilas collaris	*	-	-	—	Goattekollas.
67. Hæmatopus ostralegus	*a*	*a*	*a*	—	Tsagan.
68. (Grus cinerea); see note 42					
69. Numenius arquata	*	-	-	—	Gusch kastak.
70. „ phæopus	*	-	-	—	*Id.*
71. Tringa islandica; see note 43	*r*	-	-	—	
72. „ minuta; see note 44	-	*r*	*r*	—	
73. „ Temminckii	*a*	-	-	—	Vizardalle.

	Species.	Summer.	Spring and Autumn.		Winter.	Lapp. Name.
74.	Tringa maritima; see note 45	*a*	*a*	*a*	*	Tsivlasch; Gaddebirrusch.
75.	„ alpina; see note 46	*a*	-	-	—	Tschappis tschoavje.
	(„ Schinzii); see note 47					
	(„ platyrhyncha); see note 48					
	(„ subarquata); see note 48					
	(Calidris arenaria); see note 49					
76.	Machetes pugnax; see note 50	*a*	-	-	—	Ravgusch.
77.	Totanus hypoleucus	*a*	-	-	—	Gaddebirrusch.
78.	„ fuscus; see note 51	*r*	-	-	—	Tschappis tschoavtscho.
79.	„ calidris	*a*	*a*	*a*	—	Tschoavtscho.
80.	„ glareola	*a*	-	-	—	Utsch tschoavtscho.
81.	„ glottis	*	-	-	—	Vikla „
82.	Limosa rufa; see note 52	-	*	*	—	
83.	„ melanura; see note 52	-	*r*	*r*	—	
84.	Scolopax gallinago	*a*	-	-	—	Makkastak.
85.	„ gallinula; see note 53	*r*	-	-	—	
86.	Phalaropus angustirostris	*a*	-	-	—	Tschatsebavgus; Svapalas.
87.	„ rufus; see note 54	-	-	*	—	
88.	(Fulica atra); see note 55	?	-	*r*	—	
89.	Procellaria glacialis; see note 56	*	*	*	—	Buhmalasch.
90.	Sterna arctica	*a*	-	-	—	Tscherrek.
91.	Larus eburneus; see note 57	-	-	*r*	*r*	Ave riefsak.
92.	„ tridactylus; see note 58	*a*	-	-	—	Skirro.
93.	„ canus; see note 59	*a*	-	-	*a*	Baiske.
94.	„ argentatus; see note 60	*a*	-	-	*a*	Stuorraladde.
95.	„ leucopterus; see note 61	-	-	-	*	*Id.*
96.	„ glaucus; see note 62	*a*	-	-	*a*	*Id.*
97.	„ marinus; see note 63	*a*	-	-	*a*	Geja.
98.	„ fuscus; see note 64	*a*	-	-	*a*	
99.	(Lestris catarrhactes); see note 65					
100.	„ pomarina; see note 66	*	-	-	—	Ave haskil.
101.	„ parasitica; see note 67	*a*	-	-	—	
102.	„ crepidata; see note 68	*a*	-	-	—	Haskil.
103.	Cygnus musicus	*	-	-	—	Nuftscha.
104.	Anser albifrons	*r*	-	-	—	
105.	„ minutus; see note 69	*	-	-	—	Galbenjudne tschuouja.
106.	„ Segetum; see note 70	*	-	-	—	Tschuouja.
107.	„ arvensis; see note 70	*	-	-	—	*Id.*
108.	„ cinereus; see note 70	-	*	-	—	
109.	„ torquatus; see note 71	-	*a*	*a*	—	
110.	(„ leucopsis); see note 72	-	-	*r*	—	
111.	(Anas tadorna); see note 73	-	-	*r*	—	
112.	„ acuta	*a*	-	-	—	Vuonjasch.

	Species.	Summer.	Spring and Autumn.	Winter.	Lapp. Name.
113.	Anas crecca	*a*	-	—	Schiksa.
114.	„ boschas	*r*	-	—	Dörsa.
115.	„ Penelope; see note 74	*a*	-	—	Snartal.
	(„ fuligula); see note 75				Utsa ſjeltakasch (Enare).
116.	„ marila; see note 76	*	-	—	Fjeltak.
	(„ leucophthalmos); see note 77				
117.	„ nigra	*	-	—	Njurgo.
118.	„ fusca	*a*	-	—	Skoorra.
119.	„ clangula; see note 78	*a*	-	—	Tschoadge.
120.	(„ Barrovii)		*r*	—	
121.	„ glacialis; see note 79	*a*	-	*	Hanga.
122.	„ Stelleri; see note 80	*	-	*a*	Savje havda.
123.	„ mollissima; see note 81	*a*	-	*	Havda; ♂, Likka.
124.	„ spectabilis; see note 82	—	-	*	Burs-njunhavda; Sult-njunhavda.
125.	Mergus merganser	*	-	—	Gussagoalse.
126.	„ serrator; see note 87	*a*	-	*	Vuoſtagoalse.
127.	Graculus carbo; see note 83	*a*	-	*a*	Skarfa.
128.	„ cristatus; see note 83	*a*	-	*a*	
129.	Colymbus glacialis	—	*	—	Ave doſta.
130.	„ arcticus; see note 84	*a*	-	*	Doſta.
131.	„ septentrionalis	*a*	-	—	Gakkur.
132.	(Podiceps arcticus); see note 85		*r*	—	Njunnalak.
133.	Uria troile; see note 86	*a*	-	*	
134.	„ ringvia	*a*	-	*	
135.	„ Brunnichii	*a*	-	*a*	
136.	„ grylle	*a*	-	*	Tschielkas.
137.	Mergulus alle		*	*	Tsillasch.
138.	Mormon arcticus	*a*	-	*	Boſtasch.
139.	Alca torda	*a*	-	*	Halca.
140.	(„ impennis); see note 88				

(To be continued.)

Greenland Seal near Ryde.—On the 15th of February a seal having been shot on the rocky shore at Seaview, near Ryde, its capture was announced in the local papers as that of a "sea monster, with teeth like a crocodile's, nose like a dog's, and having a tail like a goat's! Its length four feet three inches; weight one cwt." It was said to be the gray seal; and this went the round of the papers. Having forwarded a drawing of the tusks of the different species to Mr. Smith, taxidermist, of Newport, by whom it is being prepared for the Museum, it turns out to be the Greenland seal. From its being designated a "sea monster," it might be imagined that a seal had never been seen on our coast before; but I have heard of more than one instance of its occurrence. Last year one was seen off Shanklin.—*Henry Hadfield; High Cliff, Ventnor, Isle of Wight, March* 12, 1867.

Death of the Sea Bear.—At the meeting of the Zoological Society of London, held on Thursday last, Dr. Murie described the cause of the death of the Otaria, or sea bear, the remarkable animal that proved so great an attraction to the visitors to the Gardens during the last summer. Our readers may remember that an account of this docile and intelligent creature, with an engraving after an exquisite drawing by Wolf, appeared in the 'Field' of March 10, 1866, and the engraving has been reproduced in the 'Rural Almanac' for the present year. On the 10th of February last the animal appeared dull and showed less than its usual activity and grace in the water: on the following day it was seriously ill, and had altogether lost its appetite. On the 12th the symptoms were increased; the body became cold, there was tenderness on pressure, and every symptom of dangerous internal inflammatory action. On the 14th the animal passed a fragment of coarse canvas, tightly compressed by the action of the intestines into a cord-like form, some four or five inches in length, and between one and two in diameter; inclosed in the folds was a fish-hook. The passage of these foreign bodies gave every reason to hope for a favourable termination to the case; but unfortunately the irritation produced by their presence in the digestive canal was too great, and the animal died early on the morning of the 15th. The post-mortem examination showed that death resulted from congestion of the alimentary canal and liver, evidently caused by the passage of the substances above-mentioned.—*W. G. Tegetmeier, in the 'Field' of March* 9, 1867.

Notes on the Mammalia of Buckinghamshire and Berkshire (continued from Zool. S. S. 631).—

Otter.—Otters are occasionally seen, and I believe taken, in the neighbourhood of Windsor, and the remains of fishes partly eaten by these animals are found on the banks of the Thames. Mr. Thomas Lloyd, of Eton, observed one in the rushes by the river, near Surley Hall, at the beginning of last September, and I believe several have been seen this winter near here.

Field Mouse.—A variety (?) of the field mouse was caught, by a dog, in the private grounds of Windsor Castle, last November. I took it from the mouth of the dog about a minute after it had caught it, and was surprised to see that it had no tail: it had certainly not been eaten off by the dog. Its ears were covered with long fur, and were very large, while its head appeared to be much swollen and larger than usual. The eyes were set close to the snout, and its whole appearance was very peculiar. I took it to several naturalists in London, and it was pronounced by all to be a variety of the field mouse. It was found close to the water, late in the day.

Common Water Rat.—On the 29th of January last I saw a curious variety of the water rat: it was swimming across a stream near Eton: its tail was quite white, and the rest of its body of the usual colour. It had something in its mouth that looked like a bit of straw, but whether it was or not I cannot say.

Polecat.—These animals are still fairly common near Windsor, notwithstanding the continued war which is waged against them by the gamekeepers.

Shrew Mice.—These little animals are exceedingly numerous near Surley and Eton; but from a field which borders on the banks of the Thames (in which great numbers of shrews lived) being under water during the late floods, great numbers perished.

Common Mole.—One of the animal-preservers here told me that he had brought to him, the summer before last, a cream-coloured variety of the mole. He says that its eyes were pinkish in colour, and that it was a very pretty specimen.—*A. Clark-Kennedy*, *February* 12, 1867.

Perfect Mastodon Skeleton.—One of the largest and most perfect mastodons known has recently been discovered in digging the foundation for a mill at Cohoes, near Troy, in the United States. It was found eighty-three feet below the surface of the ground, and in so perfect a condition that it is believed that the skeleton can be restored entire. The animal must have been at least twenty feet in length and fifteen in height. The tusks measure eight feet, and the jaw is four feet nine inches in length from the mouth to the cranium. The remains have been carefully collected, and it is stated that Prof. Agassiz will draw up a report on them.

Nesting of the Peregrine Falcon.—In your 'Birdsnesting' you say, at p. 6, as to the situation of the peregrine's nest, "Sea cliffs all round our coast." This is quite correct so far as it goes, but curiously enough, in the only instances in which I have procured the eggs myself, the nests have been built in mountain cliffs far from the sea. In 1857 I took a peregrine's nest with three eggs, in the middle of May, from a mountain craig, some three miles from Gargunnoch, in Stirlingshire. The old birds having been killed by a keeper on the 27th of April, and brought to a birdstuffer in Stirling, induced me to seek for their nest. I understand that since then another pair of peregrines have occupied the same breeding-place. In Aloa Craig, just above the village of Aloa, in Clackmannan, a pair of peregrines nest nearly every year, although frequently robbed.—*W. H. Feilden; Feniscowles Hall, Blackburn, Lancashire, March* 5, 1867. [Such criticisms as this are always acceptable: it is very agreeable when omissions call forth additional information.—*E. N.*]

Orangelegged Hobby near Aberdeen.—A female of this species was shot near Rothiemay about four years ago, and preserved by Mr. Mitchell, and a male was shot in the month of July last year, within six miles of Aberdeen, while in the act of stealing the last of a brood of chickens. The reason why this species has not been oftener observed is, doubtless, owing to its being confounded with other species which it resembles.—*Aberdeen Free Press.*

Kestrels breeding in Confinement.—In one of your late impressions a correspondent wished to know if the sparrowhawk ever bred in confinement. Now I cannot recall an instance of that species having done so, but can relate an interesting case concerning the kestrel, which came under my own notice only last summer. On calling at the shop of Mr. Rogers, naturalist, Plymouth, I was asked into the aviary, containing live birds of many kinds, and on observing a female kestrel crouched in the corner of a cage not five feet long by about three feet high, and not two feet broad (with her feathers ruffled and her wings partially spread, as if pluming her prey), asked what it meant, and was told she had been sitting on five eggs, had just hatched one young one, and that the male, which was on a perch close by, had regularly taken his turn on the nest. Of course, feeling interested, I called again in about a week, and found that the whole five had been hatched, one on every alternate day; but, strange to say, directly after the second chick was produced, she killed and ate the first, and after the third she ate the second, and so on to the fourth, allowing each to live one day, when Mr. Rogers, wishing to save at least one young bird, took away the fifth, hoping to rear it by hand, but it lived only a day or so. The old birds are now alive, apparently very happy and in good health. Whilst writing on rearing young birds by hand, I may mention a remarkable instance which occurred at Plymouth a year or two ago. A friend of mine found a gull's nest on some cliffs in the neighbourhood, and, seeing the bill of a young one just appearing through a hole in an egg, he broke it, released the young bird, wrapped it up carefully, brought it home, fed and kept it until it became full grown, when he sent it away as a present to a friend.—*John Gatcombe; Plymouth.—From the 'Field' newspaper.*

Goshawk in Ireland.—Since my last communication on this subject (S. S. 632) I have found the following passage in a scarce work on hawking entitled 'A Treatise of Modern Faulconry,' by James Campbell, which was published in Dublin in 1780:—"The goshawk is found in the north of both Scotland *and Ireland*, where she builds her nest in a tree" (p. 214).—*J. Edmund Harting; Kingsbury, Middlesex, February,* 1867.

The Lesser Gray Shrike (Lanius minor) *a British Bird.*—On referring to the 'Zoologist' for the year 1851, you may observe a notice of the occurrence of a female specimen of L. excubitor having been sent from St. Mary's, one of the Scilly Isles, in the first week of November: this specimen, which stands in my case of shrikes with another and larger gray shrike, which is the L. excubitor, an adult male bird, is so much smaller that I had for a long time regarded it as the adult female of L. excubitor; subsequent observations, however, of this small Scilly bird caused some doubts in my mind as to its identity with the great gray shrike, and my friend the Rev. John Jenkinson, in a late visit, entered upon the subject, which led to an able and valuable description of my two birds and one of his own, and I can only refer your readers at present to the notice which appeared in the 'Zoologist' (S. S. 605) since. On meeting Mr. Gould in the county some time since, I mentioned to him my conviction that my small bird specifically differed from the great shrike, from the shorter and more conical shape of the bill, its much shorter tail, and the distribution of white in the feathers of the tail being different from the larger bird: the blotch of black behind the eye was much broader and not approaching to the character of a streak, and the upper plumage was entirely plain dull gray, without a vestige of white on the scapularies. Mr. Gould asked me to send the two birds for his inspection, which I did, and he writes me word that my small bird is Lanius minor, the first instance of its occurrence in the British isles, so far as he knew. It will be right to state that this specimen has not the *black band in front* on the forehead, as represented in the 'Birds of Europe' and Dr. Bree's work on European birds; but as Temminck says that the young birds are without this band my specimen may be a young bird with plumage much worn.—*Edward Hearle Rodd; Penzance, March 5,* 1867.

Eggs of Ring Ouzel and Blackbird.—You seem to think ('Birdsnesting,' p. 11) that the eggs of ring ouzels and blackbirds are so nearly alike as scarcely to be distinguished: my own opinion is that there is a specific difference between them; but as there will be several pairs breeding with us this year, I will collect their eggs myself and leave you to judge whether there is not a marked difference between the two species.—*H. W. Feilden.*

Black Redstart at Dawlish.—I saw this morning, in a shrubbery at Dawlish, a female specimen of the black redstart. The shrub on which the bird was perched was within a gun-shot of the beach, and a rather strong east wind was blowing at the time. —*J. H. Gurney.*

Savi's Warbler (?), *Plover and Lesser Spotted Woodpecker in Bucks.*—Last June, in the neighbourhood of Eton, I saw a bird which I am pretty sure was Savi's warbler: it was in a low hedge which I am in the habit of passing nearly every morning, and the favourite resort of sedge warblers, close to the River Thames: having heard a harsh note, like that of the sedge warbler, I looked for the bird, and got a fair sight of it for a moment while sitting on the top of the hedge, when I discovered it was no common warbler, but a bird with a reddish brown back, with (I think) a black line across the wings: the cheeks and breast were grayish white; I thought it would prove to be Savi's warbler, but I had no idea how closely Morris's plate would describe my bird. Mr. Clark-Kennedy, in his notes from Bucks, might have added that between October and March flocks of plovers continually pass over Eton—probably lapwings and golden plovers. About four Sundays ago I observed a lesser spotted woodpecker on an elm close to my window, but the sparrows soon drove it away. These same sparrows are provokingly exclusive: chaffinches and titmice meet with the same rough treatment at their hands.—*Clifton; Eton, Bucks.*

Bohemian Waxwing in Wiltshire.—The last week in November, 1866, a very nice specimen of the Bohemian waxwing was killed at West Wellow, Wiltshire: although these beautiful birds, about this time, appear to have been quite numerous in some districts, this is the only specimen, so far as I can ascertain, that has been killed or seen in this neighbourhood. The lad who shot it said it was quite alone, and that he had seen no others before or since.—*Henry Blackmore; Salisbury, March* 9, 1867.

Bohemian Waxwing at Vienna.—A bird, very rare as far south as the Danube, the waxwing, has visited Vienna in large flights during the winter, probably driven from more northerly regions by the unusually heavy falls of snow. This beautiful creature is considered a bird of ill omen by the country people, who call it "pest," or "todtenvogel,"—plague or death bird,—and believe its appearance to forebode pestilence and famine and war.—*From the 'Standard' of March* 4, 1867.

Pied Wagtails in January.—With regard to this subject (Zool. S. S. 634) I noticed that a great many pied wagtails appeared here, in the streets of this town, on the 3rd of January, immediately after the first fall of snow this winter: they seemed to have a great dislike to the snow, and exclusively frequented patches of roadway from which it had been cleared, feeding at refuse-heaps or any unfrozen parts of the gutters. Although not in flocks they were pretty numerous: I several times counted eight or ten single birds just in front of the house, and into whatever street you went at least two or three were seen, so that the number altogether in the town must have been considerable. Three or four regularly frequented our garden in company with robins, chaffinches, hedgesparrows, tits, sparrows, &c., and fed freely on small scraps of fat, &c., thrown out for them. The robins and wagtails were far more pugnacious than any of the other birds, and combats were constantly taking place between individuals of the two species. Immediately upon the break up of the frost the wagtails left the town, and from the 6th to the 12th of January I did not see one: on the latter day, however, snow again fell, and on the 13th there were several wagtails in the streets, where they continued until the return of mild weather, when they again disappeared; since then I have only twice seen a solitary bird in the town, and but very few in the neighbourhood.—*James Shorto, jun.; High East Street, Dorchester, March* 11, 1867.

Does the Yellow Wagtail always Migrate?—One was killed under the frame of my bird-trap in December, 1814, during a slight frost, and a beautiful specimen it was; and I also saw one on the 25th of December, 1866, at Keynsham, Somersetshire.—*Edward West; Saltford, near Bristol.*

Black Sky Lark.—About twenty years ago the writer called on a tailor, named John Yearsley, near Weaverham, in Cheshire, who had a sky lark nearly black, which bird he said "had become so, as almost any other bird would do, by being fed wholly on hemp-seed."—*Id.*

Wood Lark in Kent.—During the first severe snow here (Cobham) flocks of larks were continually passing over the park. These birds I imagine to have been wood larks. I never could find out that they settled anywhere; all I know is that they were continually passing over my head in a S.W. direction: as they flew over me I noticed that they seemed short compact birds, and that the tail was short—shorter I should say than any sky lark's tail: the breast appeared to be of a pure white ground-colour, the spots not being visible at such an altitude, while on the throat there was a very thick and distinctly marked cluster of dark red spots. I consulted Mr. Harting's book as to the distinctions between the two species, and was tolerably satisfied as to my birds being wood larks; but what exactly gave me the idea of them was the figure of the wood lark in 'Our Native Songsters.' I should like to know if any other southern ornithologists observed any wood larks last winter.—*Clifton; March* 10, 1867.

Lapland Bunting at Lewisham.—At a meeting of the West Kent Natural History Society, held at Blackheath on the 27th of February, Mr. Price exhibited a very fine living specimen of the Lapland bunting. This very rare straggler was captured, during the late severe weather, in Lewisham brick-fields, near the Lewisham Road. The specimen is a male in the winter plumage, the velvety black beginning to show a little on the head and breast: the bird is very lively, and, though the lark-feet would suggest a different habit, appears to prefer perching to resting on the ground. I am glad to add that the bird is in good hands, and is not likely to be killed for stuffing: it is quite refreshing to record the visit of so rare a bird without giving an account of its slaughter. I may add that it showed its affinity to the buntings by descending when caught to the call of the common bunting.—*J. Jenner Weir; 6, Haddo Villas, Blackheath, February* 28, 1867.

Snow Bunting on Blackheath.—I was fortunate enough to obtain this morning a most beautiful specimen of the male snow bunting: the bird is in the variegated plumage of spring, is very healthy and active, and I trust will form an interesting addition to my aviary.—*Id.*

Siskin at Oatlands.—We have the siskin here just now in very beautiful plumage. —*W. C. Hewitson; March* 4, 1867.

Siskin in Buckinghamshire.—About a fortnight ago I saw in a bird-fancier's shop in Eton six siskins: he informed me that they had all been caught in the vicinity of Eton, by clap-nets. On the 5th or 6th of March I was again at the shop, when an addition of five or six had been made, having also been caught near Eton. I fancy these birds are not common about here, not having noticed any before. They were all in good plumage, especially the male birds.—*A. Clark-Kennedy; Eton, March* 11, 1867.

Canaries breeding in January.—A man who lives in Windsor told me that he had had some very early canaries this year: he said that the old birds began to form the nest during the old year (1866), and that four young ones were hatched upon the 18th of January following. They are now doing well, and the female hatched another brood of three on the 24th of February. Surely the first of these broods was very early, even for birds in confinement.—*A. Clark-Kennedy.*

Varieties of Chaffinch's and other British Bird's Eggs.—I have the following varieties in my collection of eggs: a short note on each may prove of interest to the readers of the 'Zoologist:'—

Chaffinch.—In the month of May, 1862, while staying at Frittenden, in Kent, I found a chaffinch's nest in a laurel, with three eggs, two of which were of the usual colour, one with very few spots on it, and a fourth had no spots at all or lines of any sort whatever, but was of a deep rich blue, not unlike a hedgesparrow's egg: the colour has greatly faded within the last two years.

Thrush.—I have a pure blue thrush's egg, and several with hardly any spots: neither of these are uncommon.

Blackbird.—I have a blue egg of the blackbird, with rather a tendency to reddish brown at the larger end, and several very deep brown ones.

Robin.—In the summer of 1862 or 1863 I found a nest of the robin on a mossy bank by the side of a public road near Berkhampstead, Herts: in it were four eggs, all quite white, and of a most lovely pink hue before being blown. Is a white egg of the robin common or not?

Guillemot.—I have several curiously marked specimens of the guillemot's egg: some are very lightly marked with brown, while I have others marked as if with ink.

Wood Pigeon.—I have an egg quite round of this bird.

Yellow Bunting.—I have several eggs with various letters marked upon them—on some very plainly.

Goldencrested Wren.—I have an egg quite round of this bird, and several very elongated. The eggs of this species seem to vary considerably.

Redbacked Shrike.—An egg with lilac markings, one with brown spots, and another has deep red marks.

Hawfinch.—I got the eggs of the hawfinch in the summer of 1863 near Berkhampstead, Herts.—*Id.; February* 18, 1867.

Curious Fact connected with the Brambling.—Yesterday evening, at a little past eight o'clock, a bird flew into a room in this house (in Eton), through the open window: I soon saw that it was a brambling. It is not a common bird here, and I believe not very numerous anywhere; but the curious fact is its flying by night straight into a house. I should be inclined to think it had escaped from some cage, as it made no effort to escape. It was placed in a cage, and up to this time is thriving: the bird does not belong to me.—*Id.*; *March* 11, 1867.

Magpie with a Yellow Beak.—On the 23rd of Febrnary Mr. J. G. K. Young and myself drove down to the coast to see if any birds could be procured. On the way down a magpie rose out of some blae-berry bushes about twenty yards from us, and alighted on a tree some distance off. "By Jove! look at his yellow bill!" I said, as he flew off; "I never saw that before." Mr. Young also saw it quite distinctly. I was at first inclined to believe that it was something which it was carrying in its beak, but the yellow was so distinct, and had so formed itself into the exact shape of the bill that I feel almost certain that it really was a yellow bill, and Mr. Young was perfectly *positive* that it was. I tried to stalk the bird, and got within sixty yards of it, but could not get nearer. The gun "snapped," and the bird flew off into the woods. Have you ever seen or heard of a magpie with a yellow beak before?—*John A. Harvie Brown; Dunipace House, Falkirk, March* 6, 1867. [Certainly not; and I can offer no opinion in the present instance.—*E. N.*]

Curious Abnormal Growth of Feathers in a Woodpecker's Tail.—I have an adult male specimen of the green woodpecker in my possession, killed in January last in this neighbourhood: its tail contains the usual number of feathers, *viz.* twelve, all in perfect condition; between the centre ones two curious abnormal shafts issue, raising themselves above the surface of the others, and curving over the right side: they are quite strong and stiff, and from the ends of each several fibres branch off: each shaft measures one inch and seven-eighths in length.—*T. E. Gunn; 3, West Pottergate, Norwich.*

Breeding of the Kingfisher.—I do not find in any book of birds in my possession any reference to the time of year at which the kingfisher begins to breed, and as I have been surprised at its early date I send you the following record. The kingfisher has bred here every year of my residence, and until I had a sand-bank cut in forming an island in the lake for ducks to breed upon, it managed (very uncomfortably, I should think) to breed amongst the roots of an alder. This year it first made its appearance on the 20th of February, when it cleared out its hole, and is now, I have little doubt, sitting upon its eggs. It must I think have three broods in a year. It was here last year for six months, and seemed to be employed the whole time, and daily, passing to and fro. The young birds have very little notion of self-preservation. Out of a brood last year one killed itself against my drawing-room window, and a second flew into a neighbour's house.—*W. C. Hewitson; Oatlands, March* 4, 1867.

Toad Stones and Eagle Stones.—Anent the quotation from 'Evangeline' (Zool. S. S. 561) respecting swallow stones, may I be allowed to place the following observations on toad stones and eagle stones from Brand's 'Popular Antiquities.' Pennant, in his 'Zoology,' as quoted by Brand, says, "It (the toad) was believed by some old writers to have a stone in its head, fraught with great virtues, medical and magical. It was distinguished by the name of the reptile, and called the toad-stone, Bufonites, Crapaudine, Krottenstein; but all its fancied powers vanished on the discovery of its being nothing but the fossil tooth of the sea-wolf, or some other flat-toothed fish, not unfrequent in our island, as well as several other countries." The editor of 'Popular Antiquities,' pursuing the subject further, has added two interesting notes from the same author, Pennant:—"These and the other grinding teeth (alluding to the teeth of the wolf-fish) are often found fossil, and in that state called Bufonites, or toad-stones: they were formerly much esteemed for their imaginary virtues, and were set in gold and worn as rings" ('Zoology,' vol. ii. p. 154). "The ancients believed that the pebble commonly called the ætites, or eagle-stone, was found in the eagle's nest, and that the eggs could not be hatched without its assistance" (Ibid., vol. i. p. 167). For further information consult Brand's work.—*George Roberts; Lofthouse, Wakefield, February* 16, 1867. [I think I recollect more than one passage in Shakespeare bearing on this subject; but I leave Mr. Harting, who is so skilled in Shakespearian lore, to investigate this.—*E. Newman.*]

The Willow Grouse and Red Grouse.—After a perusal of what has appeared at various times in the 'Zoologist' upon the supposed specific identity of the willow grouse of Norway and the red grouse of the British islands, I still believe that Temminck was correct in considering them to be distinct species. If the plumage of the willow grouse had been at any period of the year the same as that of our red grouse there would have been some grounds for supposing them to be identical; but this is not the case. The changes of plumage of the willow grouse are the same as those of the common ptarmigan, the wings and lower parts of the body being pure white at all seasons. The periodical changes of the plumage of the red grouse are very slight, but the colour, I believe, is generally *darker* in winter than it is in summer, when it assumes rather more of an orange tint. The common ptarmigan undergoes the same changes of plumage in this country as it does in Norway and Sweden, and it is very remarkable that no such change should ever take place in the plumage of our red grouse if it is identical with the willow grouse. Temminck states that the red grouse has only sixteen feathers in the tail, while the willow grouse and common ptarmigan invariably have eighteen, but I cannot verify this assertion, as I have not a skin of either of the species now in my possession. Mr. Cooke, of Oxford Street, told me a short time since that he possessed authentic eggs of the willow grouse, and they were certainly different from any of the varieties of those of the red grouse.—*Henry Doubleday; Epping, February* 6, 1867.

Bitterns near Dorchester.—Although the bittern is now only a rare visitor with us, several have this winter been obtained in the neighbourhood. I saw lately in the hands of a birdstuffer two male birds, in very fine plumage, both shot at the beginning of the year, and another was taken alive at West Stafford, about two miles from here, during the third week in January. This bird was found by some wild-fowl shooters in a withy bed, standing over a jack, which it had killed, but not commenced eating: when it was flushed the jack was left behind, and a trap was set by the fish, in expectation of the bittern's return, which proved to be the case, and the bird was taken uninjured, although not secured without some difficulty. Having been carefully fed for some days on fish, &c., it seemed likely to do well in confinement, and it has I believe been sent to the Zoological Gardens, Regent's Park.—*James Shorto, jun.; High East Street, Dorchester, March* 11, 1867.

Redshank in Breeding Plumage in January.—Among several redshanks received, in the flesh, from the neighbourhood of Southend, during the severe weather in January last, I noticed one that, to all appearance, was in complete summer plumage. On comparing it with several skins and stuffed specimens in my collection, all in summer dress, I found that it scarcely differed from them in plumage, the only variation being that the spots on the fore part of the neck and breast were a little less conspicuous in the bird killed in January than in the others. In all other respects the plumage of the birds was identical. Is not this unusual? I have killed redshanks at all periods of the year, but have never before observed anything of the kind, and should much like to know if any of the readers of the 'Zoologist' have done so. I am aware that ovarian disease is considered a cause of variations from normal plumage. In the present instance the bird was an adult female, as proved by dissection, but the ovary was to all appearance perfectly healthy.—*W. H. Power; City of London Hospital, Victoria Park, February* 28, 1867.

Canada Goose at Coombe Bissett.—On Monday, the 21st of January, a fine specimen of the Canada or cravat goose (*Anser canadensis*) was shot in a meadow at Coombe Bissett, Wiltshire, by Mr. Crosse, of the same place: it came into my possession the following day, and on dissection proved to be a male bird, weight twelve pounds; wing measured from carpal joint to end of longest quill-feather 19½ inches; full length 41½ inches. Another was shot in the same locality on Saturday, the 26th of January, and was purchased by Mr. Marsh, of Ramridge House, to add to his collection: this specimen appeared to me to be the same in every respect as the one I have (a male bird in equally good plumage and condition). Mr. Whatman, of this city, told me he saw a flock of seven of these geese on the 19th instant, in a meadow at Homington, which is the adjoining village to Coombe Bissett, where the two birds were killed. From inquiries I have since made I cannot learn that these birds were kept on any ornamental water or lake in the neighbourhood; it may therefore be deduced that they are *bonâ fide* specimens of the bird in its natural state.—*Henry Blackmore; Salisbury, February* 20, 1867.

Tufted Pochard on the River Lea.—It may be interesting to ornithologists to learn that on the 20th of March a flock of the tufted pochard were observed on the River Lea, about a mile from Hoddesdon, between Carthagena Weir and Charlton Mill. My son, who was taking a stroll with his gun, was fortunate enough to come upon them, and got two double shots and one single shot at them as they wheeled round him three times. Five fell to his first double shot, three to his second, and one to his single shot: of these he secured seven; the other two birds, being but slightly hit, fell into the river, dived and escaped among the sedges. Five of the specimens, being in good condition, are in the hands of our taxidermist, Mr. William Downing.—*William T. Hooper; Hoddesdon, March* 22, 1867.

Ferruginous Duck in Norfolk.—On the 18th of January last an immatnre male of the ferruginous duck passed into my hands for preservation; it had been killed a day or two previously, with other ducks, on the Broad at Hickling.—*T. E. Gunn;* 3, *West Pottergate, Norwich.*

Goosander in Wiltshire.—Mr. R. H. Bathurst informs me that his father's bailiff found a goosander on the banks of a lake, at Clarendon, Wiltshire: it was a fine male specimen, and was quite dead when found—about a week since. Its mouth was full of fresh-water weeds.—*A. Clark-Kennedy; Eton, February* 12, 1867.

Goosander and Shoveller Duck in the South of Ireland.—I have received for preservation male and female specimens of the above-named birds. The male goosander, which had a trout in his mouth, was shot by Mr. Taylor, on the Roughty River, Kenmare, County Kerry, four miles from the sea; the female was killed at Knock, County Clare, by Capt. Gore. The shoveller duck, or rather drake, was shot by Mr. Hendley, near the junction of the Blackwater and Funcheon Rivers, County Cork; the female by Mr. Dunscombe, in a bog near Blarney. The shoveller has some beautifully marked feathers under the wing, very useful to the salmon-fisher.—*W. A. Hackett;* 38, *Patrick Street, Cork.—From the 'Field.'*

Rednecked and Sclavonian Grebes and Great Northern Diver in Norfolk.—Two males of the rednecked grebe were obtained, one on the 28th of January at Marlingford, and the other on the 10th of February near Yarmouth: in the stomach of the first I found the remains of a frog, a water beetle, and a few hairs: in the stomach of the second were the remains of some small fish (probably roach), mixed with a quantity of its own feathers. Two specimens, both females, of the Sclavonian grebe were shot in the latter part of January or beginning of February; one at Rollesby and the other at Beeston Regis: the entire contents of their stomachs comprised a few small fish-bones, pebbles, and some of their own feathers. I heard of the capture of an immature bird of the great northern diver at Hickling, about the 20th of February.—*T. E. Gunn; March* 4, 1867.

Nesting of the Blackthroated Diver.—I observe that in your 'Birdsnesting' you have omitted the blackthroated diver. Mr. Hewitson mentions it as having been found by Mr. Selby breeding upon most of the inland lochs in Sutherlandshire in 1834. Some ten years ago I received, from the island of North Uist, two eggs of this species in the yelk, together with the skins of the parent birds. These two eggs are still in my collection, and from their size cannot be confounded with those of the redthroated diver, which I have also received from the same locality: the eggs of the two species in my cabinet agree exactly with the illustrations in Hewitson's valuable work.—*H. W. Feilden.*

The Black Guillemot, an Addition to the List of Norfolk Birds.—In December last I saw the breast and wings of a bird which were cut into plumes for ladies' hats: I almost immediately identified them as belonging to an immature bird of the black guillemot: I afterwards received information that it was shot near Wells about the middle of the previous month (November). About the 21st of January last a second specimen, also an immature bird, was picked up dead on the beach at Salthouse, and passed into my hands for preservation; this on dissection proved to be a male. As no authentic record previously existed (as far as I am aware) of the occurrence of this species in this county, we may now fairly claim this as an addition to the Norfolk list of birds.—*T. E. Gunn.*

Little Auk, &c., at Henley-on-Thames.—The little auk was shot here, on a somewhat large pond, at the latter end of December last: it was in very good plumage. Wild fowl were plentiful during the hard frosty weather: a few curlews were about, and some few gulls paid us a visit. Woodcocks have been more plentiful this season around here than usual.—*Charles E. Stubbs; Henley-on-Thames, Oxon, March* 15, 1867.

Sabine's Gull in Cornwall.—The Rev. F. O. Morris states, in a late number of the 'Times,' that a specimen of Sabine's gull (a bird of the first year) was shot on the Cornish coast last month.

Gulls in Kent.—With regard to Lord Clifton's query (S. S. 637) respecting the gulls frequenting the "sprat fields" in Kent, I may state that I have generally found the blackheaded gull, in both immature and adult plumage, by far the most common in those situations. Next to this the lesser blackbacked gull, chiefly in immature plumage, is most frequently seen. The herring gull is, I fancy, uncommon; but owing to the similarity of the immature plumage of this bird and the lesser blackbacked gull, it is difficult, if not impossible, to determine the exact species, without actually shooting the birds—a proceeding I have at all times found exceedingly difficult to accomplish. The common gull is certainly uncommon, and does not frequent the fields in the neighbourhood of the smaller creeks of the Medway: I allude to the country between Gillingham and Halstow, where indeed I have not yet seen the kittiwake, and should doubt its leaving the main rivers except on rare occasions, it being I believe a more "sea-feeding" bird than most of the other gulls. The above remarks apply solely to the neighbourhood before mentioned. It is, however, possible that fields in the neighbourhood of the main rivers (both Thames and Medway) may be frequented in a different manner. The common gull, for instance, may be more often found, as I have at times noticed it numerous on the main rivers, when there was scarcely a bird of the species to be found about the smaller creeks, where indeed it is at all times decidedly uncommon. The blackheaded is without doubt the gull that commonly follows the plough.—*W. H. Power; Victoria Park Hospital, N.E., March*, 1867.

Gulls vomiting their Food.—I have just read in the 'Zoologist' for March (S. S. 625) a letter from Mr. Blake-Knox, in which he states that the common gull vomits such portions of its food as are indigestible, in the shape of jelly. This would seem to afford a little help towards the solution of a subject that has long been under my notice, but which no one has hitherto satisfactorily explained. I have observed for many years a translucent jelly lying on the "Heath," generally but not always within a hundred yards of a small pond; sometimes I have seen it on dry grass, sometimes on swampy, and not unfrequently on a small patch of rushes in the centre of this pond. It first makes its appearance about October and remains till now; it has no smell, and can surely proceed from no quadrupeds, from being found in the middle of the pond mentioned. The probability of its being any indigestible part of a bird's food seems to me a little unlikely, as this would give one the idea of *digested* food, being so clean, and there are no ascertainable pieces of animal matter amongst it. I have never seen a heron thereabouts, though I am always looking for birds there; and even if it proceeded from one, what should a heron be doing so far from water as I sometimes see this? and I never heard of or saw a gull of any sort in this particular locality. Some of the readers of the 'Zoologist' may be able to assist me in my endeavour to arrive at a satisfactory conclusion.—*H. Greenwood; Sandfield Lodge, Hampstead, March* 21, 1867.

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

February 18, 1867.—Sir JOHN LUBBOCK, Bart., President, in the chair.

Donations to the Library.

The following donations were announced, and thanks voted to the donors:—'Bulletin de la Société Impériale des Naturalistes de Moscou,' 1865, No. III., 1866, No. II.; 'Annales de la Société Entomologique de France,' 4e Sér. Tome v., 1865; 'Stettiner Entomologische Zeitung,' 1867, Nos. 1—3; 'Proceedings of the Natural History Society of Dublin,' Vol. iv. Part iii.; presented by the respective Societies. 'Beskrivelse over Lophogaster typicus, en mærkvædig Form af de Lavere Tifœddede Krebsdyr,' by Dr. Michael Sars; 'Norges Ferskvandskrebsdyr, Første Afsnit, Branchiopoda. I. Cladocera Ctenopoda (Fam. Sididæ & Holopedidæ),' and 'Beretning om en i Sommeren 1863 foretagen Zoologisk-Reise i Christiana Stift,' by G. O. Sars; 'Entomologiske Undersœgelser i Aarene 1864 og 1865,' by H. Siebke; presented by the respective Authors.

Exhibitions, &c.

Mr. F. Moore exhibited specimens of Tomicus monographus, with portions of the staves of a cask destroyed by this beetle, and read the following note respecting its ravages:—

"An official report has lately been received at the India Office from the Military Department at Madras, relating to the destruction of the casks containing the malt liquors sent out to India from this country for the use of our troops, and which is caused by a small boring-beetle perforating the staves of the casks to such an extent as to entail very considerable loss of the liquor by leakage. From an examination made in India of a large number of the perforated staves, it is there supposed that the insect first effects a lodgment beneath the hoops, which offer it a temporary shelter, and that it then bores into the wood and works its way in all directions. A large proportion of the holes run at right angles to the surface of the staves and reach from one side to the other, thus allowing free exit to the liquor, but others again traverse the wood in all directions. In some casks these perforations are literally innumerable, and taking a portion of a stave before me as a guide it is calculated that in the cask to which it belonged there were not less than 134,400 perforations communicating with the outer surface, most of which served as the exit for *several* of the beetles, as upon cutting the stave lengthwise they were found in Indian-file in all directions. The larva is stated to be of a white colour and armed with a pair of powerful jaws. The beetle is also stated to be very similar in appearance to that which perforates the bamboo, but much smaller and more slender in proportion to its length; and to be precisely similar in outward appearance to the species which attacks the 'shola' of which pith-hats are made. It is unknown when this insect first made its appearance in India. It is extremely probable that at no period since the first importation of malt liquor for the troops has it been entirely absent, but in former years the stock on hand was much less than at present, and the insect was probably less destructive and consequently its presence was not officially reported. As far back, however, as 1855, when the then Deputy Commissary-General was on a tour of inspection in Burmah, the destructiveness of this beetle was brought prominently to his notice when at Tonghoo. From that date until the year 1862 the insects increased in numbers, and still continue to be very destructive; in some seasons the wastage has been less than in others, but the insect has never at any time been entirely unobserved. Up to 1862 the ravages of this pest appear chiefly to have been reported from stations in Burmah, but in the same year it was observed at Jaulnah, and probably at other stations also, and it has now broken out again in the last consignment of malt liquor received at Secunderabad. The most difficult and important inquiry connected with this subject is the question as to where the beetle first came from. The generally received opinion in India appears to be that the germ of the insect is already in the wood when the casks are sent from England, and that it becomes developed and makes its appearance after its arrival. To support this theory, however, no satisfactory evidence has been adduced. It is believed that all the staves undergo a process of steaming before being made into casks, and this of itself would be sufficient to destroy the germ of any insect; moreover, the insect has been found within a very short time after the arrival of the casks in India, and yet it has never on any occasion been detected in casks when first received from the ship. On the other hand, it has been suggested that the insect drops from the bamboos which form the coverings of the carts and boats, but an examination of the insect found in the bamboo in Madras appears to show that, although of the same genus, the bamboo-borer is larger than that which attacks the casks. The length of time after landing when the insect generally appears varies from a few weeks to several months. In the recent case at Secunderabad the casks when landed at Masulipatam were in perfect order, so much so that they attracted special notice: when they arrived at Secunderabad there was no trace of the insect, but after they had been a very short time in store the insects made their appearance, and continue to increase. Many causes have been brought forward as predisposing casks to the attacks of this insect. The first and most important is the use of unseasoned wood in making the casks. Committees were assembled at Calcutta some years ago to investigate the cause of the attacks of this insect, and its presence was ascribed by them also to the use of unseasoned wood in the casks. The fact that the use of unsuitable wood predisposes the casks to the attacks of these insects is not unlikely. It is well known in India that, if bamboos are cut at a certain season when the sap is in them, they will be assuredly attacked by the borer, whilst bamboos cut from the same spot at a proper time will as certainly be free from them. It has also been stated that a long inland journey by cart or boat tends much to cause the increase of the insect. It is difficult to give any accurate estimate of the damage caused by these insects. At times they are not very numerous, and by selecting the worst casks for immediate use the wastage is not excessive, but at other times they are so abundant that no amount of care or trouble can keep them under, and in a report last received from Tonghoo the wastage has risen to fifty per cent. The Assistant Commissary-General at Rangoon states that he has applied a strong infusion of cutch as a remedy to the casks, but that on the following day the insects were as active and vigorous as ever: observing that some salt-meat casks escaped, a strong brine was next thoroughly applied, but with no better success. Boiling water was afterwards tried, and after three applications was perfectly successful."

Mr. Moore added that Tomicus monographus was figured in Ratzeburg, but had not hitherto been found in Britain; the casks in question were made of oak, but probably not of British growth.

Mr. Newman exhibited a stem of Salix capræa, to show the mode in which, under the attacks of Sesia bembeciformis, the bark divides in three layers, as more fully described in the 'Entomologist,' ii. 140.

Mr. Newman exhibited a specimen of Naclia ancilla, *Linn.*, a moth new to Britain, taken on the Sussex coast by Mr. T. Wildman.

Mr. Newman exhibited the lock of a door, one of several which in 1866 were found at the Kent Waterworks, Deptford, to be completely filled and choked up with nests of Osmia bicornis, a portion having been forced out by the insertion of the key; the locks were in pretty constant use, so that the whole nest must have been built in the course of a few days.

Mr. Newman also exhibited two specimens of a Formica, resembling F. herculanea, which were supposed to have been found in decayed pine-stumps in Scotland; but he hesitated to announce it as a new British ant, in consequence of the doubt entertained by Mr. F. Smith.

Mr. F. Smith thought the specimens in question were distinct from Formica herculanea, and also from F. pubescens: they appeared to be identical with an ant from North America, which had been sent to him from New York as a representative of the European F. herculanea, but which in reality was a different insect. An examination of the specimens exhibited, particularly of the worker, led him to believe that they had been in some old collection for years; the pins were of very antique pattern, and the abdomen of the female had been stuck on with gum: he thought there must have been some mixing of specimens, and that these had by accident been included in a British collection: the evidence of the actual captor was wanting, and until that was forthcoming, or the species was recaptured, he could not but think that the supposed occurrence in Scotland was a mistake.

Mr. F. Smith exhibited a collection of Hymenoptera taken by Mr. Du Boulay at Champion Bay, N.W. Australia, containing a fine series of Formicidæ, comprising about fifty species; twenty-four of the genus Camponotus, six of Polyrhachis, eight of Ponera, one of Odontomachus, four of Crematogaster, one of Pseudomyrma, four of Pheidole, and four species of Cryptoceridæ, belonging to the genus Meranoplus. The collection also comprised twelve new species of Thynnidæ, three of Pompilidæ, eleven new species of Mutillidæ, thirteen of Apidæ, four of Vespidæ belonging to the genus Paragia, and two remarkably beautiful species of the genus Odynerus. Amongst the Formicidæ was a very beautiful species of ant, which Mr. Smith proposed to name Pheidole hyacinthina, from the resemblance of its body to the gem Hyacinthus.

Mr. S. Stevens, on behalf of Mr. Higgins, exhibited some Coleoptera and Lepidoptera also sent from Champion Bay by Mr. Du Boulay. Amongst the beetles were about a dozen new species, some fine Scaritidæ, Buprestidæ (Stigmodera), a new Cetonia, &c.

Mr. Stainton exhibited two specimens of the imago (one a dwarf), and a drawing of the larva, of Tinea oleastrella of Millière, which he had bred from the olive, the larvæ having been sent him by Mr. J. T. Moggridge, from Mentone, in November, 1866. Mr. Stainton had expected that when the Oleastrella made their appearance they would be referable to the genus Swammerdamia, but to his surprise they differed essentially from that genus, and came much nearer to Zelleria fasciapennella, though from the thicker palpi and narrower anterior wings they scarcely seemed congeneric with that species.

Mr. Stainton exhibited a crippled specimen of Margarodes unionalis, which also he had bred from olive: the species was on the Continent reputed to be very difficult to rear.

Prof. Westwood mentioned that on the 7th of February Prof. Rolleston had taken a hybernated specimen of Vanessa Urticæ on the wing, and being anxious to know whether any food or fatty matter had been stored up for winter consumption, he dissected it. The hybernated specimens were usually females, fecundation taking place in the autumn, the males then dying and the females lying torpid through the winter. The dissected specimen, however, proved to be a male, and in its abdomen was found a quantity of yellow greasy matter, which under a quarter-inch lens distinctly shewed oil-globules, demonstrating the secretion of fat for the purpose of hybernation.

Papers read.

Mr. A. R. Wallace read a paper "On the Pieridæ of the Indian and Australian Regions:" forty-seven new species were described, many of which were exhibited; and the descriptions were preceded by introductory remarks on the geographical distribution of the Pieridæ and on the existence in that family of cases of mimicry.

Mr. Herbert Jenner Fust, jun., communicated a paper "On the Distribution of Lepidoptera in Great Britain and Ireland," showing the occurrence or non-occurrence of all the indigenous species, except the Tortrices and Tineæ, in provinces and sub-provinces, after the manner adopted with respect to plants in Watson's 'Cybele Britannica.'

Mr. Edward Saunders communicated a paper entitled "Notes on Rare and Descriptions of New Species of Buprestidæ, collected by Mr. Lamb at Penang." Fifteen new species were characterized, one of them being the type of a new genus, Xenopsis, closely allied to Castalia.

March 4, 1867.—**Frederick Smith**, Esq., Vice-President, in the chair.

Additions to the Library.

The following donations were announced, and thanks voted to the donors:— 'On certain Entomological Speculations, a Review,' by A. S. Packard, jun., M.D.; presented by the Author. 'The Zoologist' for March; by the Editor. 'The Entomologist's Monthly Magazine' for March; by the Editors.

Purchased:— Lepelletier de St. Fargeau et Brulle, 'Histoire Naturelle des Insectes Hymenoptères,' 4 vols. and 4 parts of coloured plates.

Election of Member.

Alexander H. Clarke, Esq., of 16, Furnival's Inn, E.C., was ballotted for, and elected a Member.

Exhibitions, &c.

The Secretary exhibited a box of Lepidoptera and Coleoptera collected in Madagascar and Mayotte by M. François Pollen, of Leyden, by whom they were presented to the Society; perhaps the most interesting insect was Sternotomis Thomsoni, *Buquet.*

Mr. Bond exhibited specimens of a small Ichneumon, parasitic on the larva of Dasypolia templi, no less than 447 having emerged from a single larva.

The Secretary exhibited drawings of the male and female of a species of Phasma, together with the larva and pupa of an Ichneumon which infested the female, and the imago of a species of Chalcididæ which was said to infest the egg of the Phasma; and read the following note, communicated by Prof. Huxley:—

"*Anisomorpha buprestoides.*—This Phasma, found by Titian R. Peale in South America, has come under my observation in the Santa Cruz Mountains, Jamaica, in one locality only, to which it curiously seems confined. As nothing appears to be known of some of its striking peculiarities, it may not be uninteresting to notice in detail the result of an attentive study of its habits and nature. It is of a dirty yellow-ochre colour, with its antennæ, which are long and slender, composed of alternate black and yellowish joints. The male, which is much smaller than the female, is about

1¾ inch in length, and the female 2¾ inches. The superior wings are rudimentary; the inferior are large, delicate and transparent; and as the latter far exceed the tegmina in size, and therefore require some provision for their defence, the anterior portion is greatly thickened, serving as a plate, beneath which the other part is folded longitudinally. In the prothorax lie two elongated spindle-shaped glands, about one-fourth of an inch in length, which secrete a white fetid fluid. These are surrounded by a network of nerves, by the contraction of which, at the will of the insect, the fluid is discharged through two raised pores which are situated in the anterior portion of the prothorax. When disturbed or attacked they make use of this means of defence, and the pungent odour produced by the milky fluid is as powerful as it is offensive. These insects are rarely seen otherwise than in a state of copulation, the male lying along the back of the female. When feeding, the male leaves his position on her back, still however remaining in apparent sexual contact. The young females are wingless till nearly full grown, and lead a single life up to that period. The larva resembles the imago, but is apterous; the pupa has rudimentary wings. With regard to the habits of these Phasmidæ, they are lucifugous and gregarious. During the day they hide themselves in the holes of trees, and amongst brushwood where it is sufficiently dense to exclude the light, and also in the cellars and behind the boarding of houses. In these nooks they arrange themselves in thick clusters. At dusk they issue forth to feed, and at break of day return to their hiding-places. Their mode of progression is extremely slow, except when alarmed, and they seldom make use of their wings. They are found in greatest numbers in the months of May, June and July. They subsist in this locality entirely upon the leaves of the Bignonia chinensis, which shrub forms a hedge in front of Belmont. Any evening after dark, by the light of a lantern, hundreds of pairs may be counted feeding greedily upon the young leaves of this hedge. It is very interesting to watch the curious and rapid manner in which they cut the leaf, taking a narrow curved strip from right to left, and then eating back as hastily in the opposite direction till the entire leaf is consumed. The eggs of this insect are cylindrical, about one-eighth of an inch in length, tuberculated, with an oval depression one side, and fitted with a valve at one end which is surmounted by a single tubercle in the centre: they lay them during the day in their hiding-places, one by one. The female is infested by the larvæ of some Ichneumon fly, of which it is to be regretted no specimens have been procured, owing to a series of unlucky accidents happening to the pupæ, just as they had become matured. These larvæ are three-eighths of an inch in length, and are provided with two minute hooks, by means of which they fix themselves to the interior of the insect. As many as seven have been found in one Phasma. Upon being taken out they make vigorous but unsuccessful attempts to creep; becoming partially exhausted as it were from these efforts, they gradually become quiet, and in a few hours they change to a dark brown chrysalis. After remaining in the Phasma until the period arrives for their transformation into the pupa state they find their way out singly and at intervals, and in a few hours assume the chrysalis form. The Phasma appears to suffer no inconvenience, and, what is most curious, no injury from them; it is unknown in what manner they make their egress from the body of the host. The eggs also are victimized in a similar manner by a minute species of Ichneumon fly, one of which has fortunately been obtained; it is probably one of the Chalcididæ: all the transformations take place within the egg, and when fully developed the perfect Ichneumon fly emerges therefrom. No parasitic insects have as yet been found to infest the male. It appears to me that the name Anisomorpha buprestoides is an incorrect appellation, as this Phasma is isomorphous. Perhaps the name of Phasma graveolens would be less open to objection, and it would at the same time express one of its striking peculiarities, *viz.* the offensive fluid secreted by the glands.'—CHARLES B. KING.

Mr. Bates observed that the author of the note was probably in error in attributing the name of Anisomorpha buprestoides to the species in question, which seemed to be a true Phasma.

Mr. F. Smith remarked upon the peculiarity of all the transformations of the Chalcidite parasite taking place within the egg of the Phasma; such a mode of development was novel, if true, but he suspected some error of observation.

Mr. M'Lachlan suggested that the cocoon of the Chalcis had been mistaken for the egg of the Phasma.

Mr. A. R. Wallace requested the assistance of Members in making observations to enable him to clear up a difficult point. Mr. Darwin had arrived at the conclusion that, as a rule in the animal kingdom, brilliant colouring was due to sexual selection: being struck, however, by the apparent exception to this rule presented by the bright hues of many larvæ, principally of Lepidoptera, which, being sexless, could not owe their gaudy attire to sexual selection, Mr. Darwin had inquired whether Mr. Wallace could suggest any explanation of this seeming contradiction of the rule. A theoretical explanation occurred to him, and it was for the purpose of ascertaining whether this theory was well or ill founded that he asked the aid of others. Many caterpillars were mimetic, imitating the leaves or flowers on which they fed, and thus obtaining protection from their enemies; others were hairy or spinose, and were probably thereby preserved from attack; whilst others again possessed neither of these modes of protection, but were conspicuous by their lively coloration. Holding that nothing in nature was without its cause, nothing without its object, and believing in the principle of natural selection or the preservation of the fittest, he concluded that this conspicuous colouring must be in some way useful to those larvæ which were endowed with or had acquired it; but in what way was it useful to them? Just as certain moths were agreeable and others distasteful to birds, so also he did not doubt that certain larvæ were agreeable and others distasteful to birds; but distastefulness alone would be insufficient to protect a larva unless there were some outward sign to indicate to its would-be destroyer that his contemplated prey would prove a disgusting morsel, and so deter him from attack. A very slight wound was sufficient to kill a growing caterpillar, and if seized by a bird, even though afterwards rejected as nauseous, its death would nevertheless ensue; the distasteful larvæ therefore required some distinctive mark, something by which they may be contrasted with and separated from the agreeable larvæ, in order that they might be freed from the attacks of birds. Brilliant coloration would be such a distinction as was required; the larvæ which were attractive to birds, when not exterminated, were doubtless preserved from extinction by other protective qualities; whilst those larvæ which were distasteful to birds, and were not protected either by mimicry, hairiness, offensive smell, or otherwise, might be distinguished by their colour from those upon which birds delighted to feed. Mr. Wallace's suggestion therefore was that, as a rule, the brilliantly coloured larvæ were those which were distasteful to birds: it was on this point that he wished to collect observations and statistics, and he should be glad if any who kept birds, and particularly indigenous birds, would make experiments with different larvæ, to ascertain which were eaten and which rejected.

Mr. Pascoe remarked that toads ate Carabidæ, notwithstanding their offensive smell; and a larva which to one species of bird would be disgusting might to another be attractive.

Mr. J. J. Weir and Mr. M'Lachlan respectively referred to the larvæ of Cucullia and Diloba, both of which were conspicuous, but apparently free from attack.

Mr. Bates suggested that information was also wanted as to what larvæ were most liable to be infested by Ichneumonidæ, and inquired whether amongst the British Lepidoptera there were many, or any, whose larvæ were not subject to the attacks of Ichneumons; and if any, were they conspicuous larvæ?

Papers read.

The following papers were read:—"Notes on the genus Raphidia," by Dr. Hagen, translated from the French by Mr. M'Lachlan. "Description of a new Carabideous insect from Japan," (Damaster auricollis, *n. sp.*), by Mr. Charles O. Waterhouse. "Note on a genus of Dynastid-Lamellicorns, belonging to the family Pimelopidæ," (genus Dipelicus, *Hope*), by Mr. C. O. Waterhouse.

New Part of 'Transactions.'

Trans. Ent. Soc., third series, vol. v., part 5, containing Dr. Wallace's Prize Essay on the Oak-feeding Silkworm from Japan, and being the first part published for 1867, was on the table.

March 18, 1867.—Professor WESTWOOD, Vice-President, in the Chair.

Donation to the Library.

The following donation was announced, and thanks voted to the donors:—'Annales de la Société Linnéenne de Lyon,' vols. 12, 13; presented by the Society.

Election of Members.

Dr. Arthur E. Davies, Royal College of Surgeons, Edinburgh, was elected a Member. M. Barbier-Dickens, 1bis, Rue Paradis Poissonière, was elected a Foreign Member. F. Archer, Esq., 3, Brunswick Street, Liverpool, was elected an Annual Subscriber.

Catalogue of British Insects.

The Chairman announced that the Council had in contemplation the publication of a general Catalogue of British Insects, but so little attention was paid to the Diptera that there would be great difficulty in compiling even an approximately complete list of the indigenous species of that Order. Entomologists throughout the United Kingdom were requested to collect Diptera, noting the times and localities, and to assist the Council in the preparation of the Catalogue.

Papers read.

The following papers were read:—"Descriptions of New Species of Cryptoceridæ," by Mr. Frederick Smith. The new species were eight in number, four of the genus Cryptocerus from South America, three of Meranoplus from West Australia, and one of Cataulacus from Borneo.

"On Species and Varieties," by Captain Thomas Hutton, F.G.S. After referring to an assertion by Dr. Bree in 'The Field' newspaper, February 4, 1866, that the identity of the species Attacus Cynthia and A. Ricini "is proved by their breeding together, and by the produce after three or four generations having a tendency to return each to its separate type,' an opinion in some measure endorsed by Dr. Wallace, who was "inclined to agree with Dr. Bree that there is but one species, modified by climate, food, and domesticity," Captain Hutton continued as follows:—

"That these opinions are erroneous will, I think, become apparent when we consider that Bombyx Huttoni, which cannot be domesticated, and the cultivated Bombyx Mori of China, two undoubtedly distinct species, will likewise breed together, and produce prolific eggs, as is the case with several other species, so that Dr. Bree's opinion at once meets with a substantial refutation; besides that there being, as he says, a tendency to return each to its separate type, is a contradictory admission that the insects belong to distinct species, since if they belong to separate types they clearly do not belong to the same specific type. Were they of the same species there would be no tendency to revert, because there would be nothing to revert to, and Attacus Ricini when uncrossed by A. Cynthia shows no tendency to revert to that species. The very fact of there being this tendency to revert shows that the species are distinct, and that the cross being contrary to the laws of nature, an effort is being made by her to cast out the cross and return to the original and separate types. But if the mere fact of species breeding together is to be accepted as a proof of identity, then does Dr. Bree very satisfactorily prove that the horse and the ass are of the same species, and that the apparent degeneracy of the latter is, according to Dr. Wallace's view, to be attributed to modification by climate, food, and domesticity. It may, however, be objected in this case that the progeny are not prolific *inter se*, which greatly alters the case; nevertheless the progeny are prolific if crossed again either by the horse or the ass. I am, moreover, of opinion that the power of producing offspring is not due to the near affinity of *species;* but is altogether dependent upon the fact that the parents, being of the same *genus*, must necessarily possess the very same structural model, without the least reference to or interference with specific characters. But if Attacus Cynthia and A. Ricini are to be regarded as one and the same species, modified by climate food and domesticity, how comes it to pass that specific characters have been obliterated and others acquired? Diminished brilliancy of coloration might doubtless be induced by climate, food, and other causes, but there would be no change of typical or specific characters, while colour, under an alteration of treatment, might easily be restored; but I would ask, if A. Ricini be only a modified variety of A. Cynthia, how have the rows of black spots on the larvæ of the latter become obliterated, and the covering of white down on the body of the imago of A. Ricini been acquired? For these black spots are not merely superficial and evanescent marks, which, like the white powder on the body of the larva, can be removed, but are actual typical dermal marks and colouring of structure, and are no more capable of obliteration than are the spots and roses of the leopard and other species. Climate and food could exercise no influence over such marks, because they are imprinted by nature in the epidermis as typical and specific characters, and are always present whether the insect occurs in the temperate mountains of Mussooree or under the tropical sun of Assam, precisely as are the spots on the leopard, whether found in Southern India or bordering on the snows of the Himalaya. Were I to admit that such specific distinctions could be obliterated, and others acquired by a change of food, climate and domesticity, it would reduce me to the necessity of adopting Darwin's theory that our present species were formerly mere varieties of some types that have died out; while if A. Ricini has in truth descended from A. Cynthia and has attained permanent specific characters of its own, which is undoubtedly the case, then can it no longer be considered as identical with A. Cynthia from which it first proceeded as a variety, and thus on the Darwinian principle are the species proved to be distinct, and Dr. Bree's opinion is again refuted. . . . . Experiments instituted in India in 1859, by crossing the wild Himalayan silkworm, Bombyx Huttoni, with the long-domesticated Bombyx Mori of China, Cashmere and Milan, produced the following results. The crossing was reciprocal, the wild female pairing with the domesticated male, and the domesticated female with the wild male. The coupling of the wild male with the domesticated female was effected with the greatest difficulty, and all the eggs thus obtained shrivelled and were unproductive. With regard to the other cross, the difficulty was somewhat less, because the domestic males readily and eagerly sought the females, which however were shy, and several, though not all, produced eggs. Very few of these however were prolific, the greater number, as in the former case, withering and drying. The few larvæ produced from this cross retained all the intractable habits of the wild species, and were accordingly placed upon trees in the open air, where in due time they spun. In the larvæ, cocoons, and moths, there was no perceptible difference from the wild race. Similar experiments were again tried and carried on even to a second cross with the domestic stock, but it was found that, cross as one might, through every stage the insect invariably reverted to the wild B. Huttoni, and neither in appearance nor in habits at all resembled the domestic species. The wild stock then preponderated, and Nature refused to promote the cross. Experiments with B. Mori and B. Crœsi, and others with Attacus Cynthia and A. Ricini, produced exactly the same results, Nature always favouring the strongest or healthiest species. Hence it is evident that Nature, so far from approving of these intercrossings, has in every case shown a strong disposition to revert to the most natural or to the strongest species, and that in every instance she has succeeded. It may be objected that when, as in my opening remarks, I declare that there is no tendency to revert unless the parents are of different species, I contradict my former remarks on the reversion and restoration of the silkworm (see Trans. Ent. Soc., 3rd series, vol. ii.); this however is not the case, for the object of reversion is to cast out something that is unnatural and inimical to a species, so that Nature, in order to preserve her types, always endeavours to cast out the effects of a cross; and where, as in B. Mori, the constitution of the insect has been destroyed by long-continued domestication, the effort is to revert from a sickly to a healthier condition, and not to a different species." The remainder of the paper was a criticism of the Darwinian theory of Natural Selection, the writer's views being principally enforced by arguments beyond the province of the Entomological Society.—*J. W. D.*

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A DICTIONARY OF BRITISH BIRDS.

By EDWARD NEWMAN,

EDITOR OF THE 'ZOOLOGIST' AND 'ENTOMOLOGIST.'

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1. In this work the whole of Colonel Montagu's 'Dictionary,' 'Supplement' and 'Appendix' are reprinted in a combined and alphabetical order, the words SUPPLEMENT and APPENDIX being prefixed to whatever is derived from these two sources. Nothing that Montagu has published is omitted or altered.

2. Observation and discovery are incessantly at work: it is no more possible for our knowledge to remain stationary than for this earth to discontinue its rotation; hence the additions which Colonel Montagu found it necessary to make between 1802, the date of the 'Dictionary,' and 1813, the date of the Supplement: these additions, now incorporated, exceed the original work in bulk. In 1833 Mr. Selby published his 'Illustrations of British Ornithology,' and in this work twenty-four species unknown to Colonel Montagu were described. In 1843 Mr. Yarrell published the first edition of his 'History of British Birds;' in 1846 a second edition, and in 1856 a third and final edition: in these three editions that amiable and most painstaking author added, from various sources, no less than fifty-nine species. The 'Zoologist' has added twenty-one species to those mentioned by Montagu, Selby and Yarrell: and here it is but fair to those gentlemen who have made their discoveries known through the medium of that journal, to state that many of Yarrell's species were first published in the 'Zoologist,' and thence transferred to the 'History;' but the credit of such additions is given to the latter work, on account of its systematic character. The descriptions of these added species are extracted from the works of Temminck, Selby and Yarrell, are marked by inverted commas, and accompanied by a reference to the volume and page.

3. Immediately after the name is inserted a reference to a figure of the *bird* and a figure of the *egg*: these references are added both to the original and the new descriptions. For this purpose Yarrell's 'History of British Birds' and Hewitson's 'Oology' have been selected: these works are at present, and for the next half-century will certainly continue, our standard authorities: these interlopations are also enclosed in editorial brackets.

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